Set Up

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Chapter 1 Before Executing Setup Operation

1.1 Precautions on Setup Operation

Be aware of the following points while executing the setup operation of the device.

(1) Precautions when starting
When starting the OS of a node, turn off the power (turn off the power lamp) and wait for one minute or more to turn on the power by pressing the power lamp switch or the power switch.

(2) Precautions when power indicator lights up
The status when the power indicator lighting is a status that the power is supplied to the node. Therefore, in this status, do not execute the following operations during the installation operation.

- Installing and removing parts
- Inserting and unplugging cables

(3) Precautions when a failure is detected by LED.

NOTE: In the case of D51B-2U, even if LED is lit, ignore it. Log into MegaRAC GUI and confirm Event Log. For the details of MegaRAC GUI, refer to "QuantaGrid Series D51B-2U Technical Guide".

When LED of the node lights up in amber, a failure is detected.
When a failure has occurred in the hardware, refer to "Replacement 'Chapter 1 Replacing the Components of Hitachi Data Ingestor' (REP 01-0000)", and replace the failed parts.

(4) Precautions on disk array subsystem
When the disk array subsystem is connected, do not shut down the disk array subsystem during the installation operation.

(5) Precautions when executing the setup operation
Before executing the setup operation, you must confirm that the console window is available to use it.
When using KVM for the setup operation, refer to Set Up "1.2 Confirmation of KVM Connection" (SETUP 01-0010).
When using the remote console for the setup operation, refer to Set Up "1.4 Connection Confirmation of the Remote Console" (SETUP 01-0010).
In the single node configuration, refer to Set Up "1.4 Connection Confirmation of the Remote Console" (SETUP 01-0010) because it uses the remote console.

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1.2 Confirmation of KVM Connection

Before executing the setup operation by using KVM in the cluster configuration, the console must be usable.

Confirm the KVM Connection with reference to "B.1.1 Confirmation of KVM Connection".

1.3 Startup Confirmation of the OS by using KVM

Whether the OS has been started or not can be checked by using the KVM console window, if the OS is installed already in the cluster configuration.

Confirm the startup of the OS by using KVM with reference to "B.1.2 Startup Confirmation of the OS by Using KVM".

1.4 Connection Confirmation of the Remote Console

Before executing the setup operation by using the remote console, the console must be in the state of usable.

Confirm the connection of the remote Console with reference to "B.1.4 Connection Confirmation of the Remote Console".

1.5 Startup Confirmation of OS by using Remote Console

If the OS is installed in the node, whether the OS is operating or not can be confirmed by the remote console window.
This procedure assumed that the connection confirmation by the remote console has been completed at Set Up "1.4 Connection Confirmation of the Remote Console" (SETUP 01-0010).

Confirm the startup of OS by using remote Console with reference to "B.1.5 Startup Confirmation of OS by Using Remote Console".

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Chapter 2 Overview of Installing OS

The procedure for installing an OS to the OS Disk of the node is shown below.

The overview of installation is described in Figure 2-1 and Figure 2-2 as shown below.

For how to install the OS, insert the installation media into the DVD Drive of node as shown in Figure 2-1 Overview of Installation (when using KVM), and install it by DVD Boot.
If the OS installation is done with BMC connection to the maintenance PC, insert the installation media into the DVD Drive of the node as shown in Figure 2-2 Overview of Installation (when not using KVM) , and then install it by DVD boot.

In the case of CR220SM and D51B-2U, attach an external DVD-ROM drive to the node to install the OS. For how to attach an external DVD-ROM drive, refer to "A.2.1.2 External DVD-ROM drive."

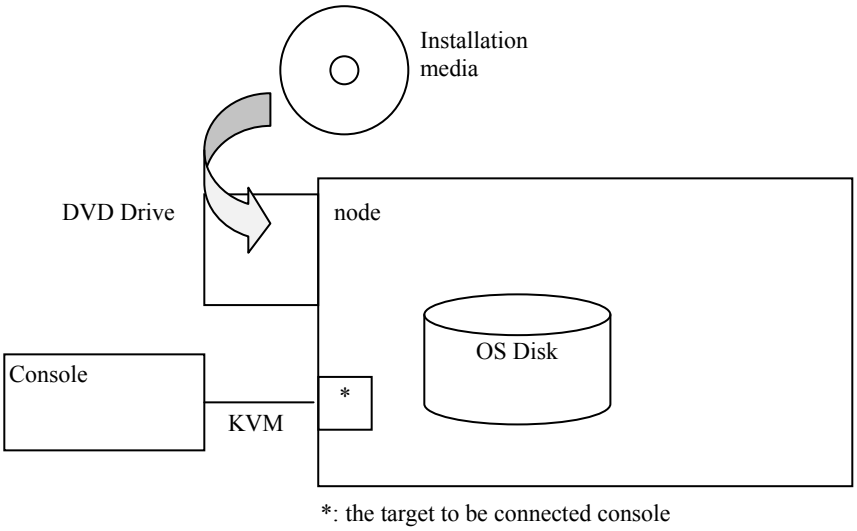

Figure 2-1 Overview of Installation (when using KVM)

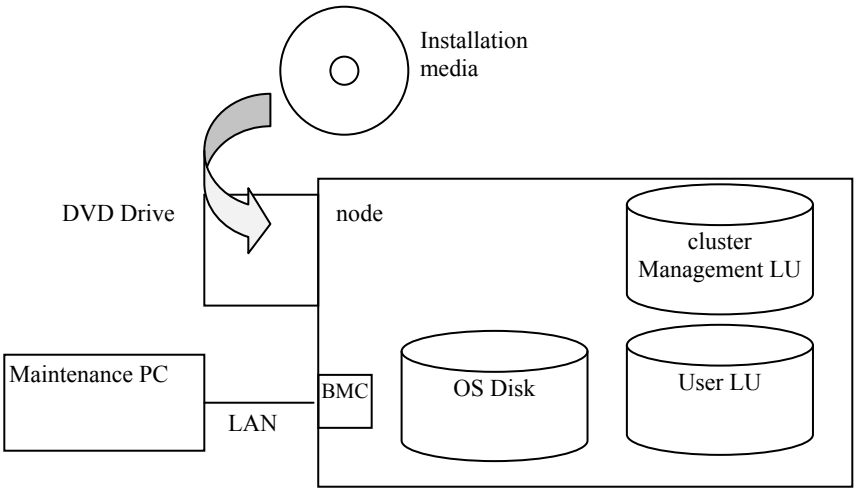

Figure 2-2 Overview of Installation (when not using KVM)

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Types of OS installation are described in Table 2-1 shown below.

Table 2-1 Description of Types of Installation

No.	Types of Installation	Description	OS Status of node Enable to Install
1	New Installation	Assumes that the OS of the node to be installed is terminated. Executed for new installation of Hitachi Data Ingestor and hardware failure recovery. In the new installation, all of the system setting information is initialized. If the new installation is executed for recovery from a hardware failure, the system setting information can be restored after the new installation by collecting the backup data of the system setting information in advance. (*2)	OS termination of node (*1)
2	Update Installation	Assumes that the OS of the node to be installed is terminated. Executed when installing to upgrade the OS version of Hitachi Data Ingestor. In the update installation, the system setting information before the installation takes over.	OS termination of node (*1)

*1: The OS termination status of the node is checked by the fact that the power indicator of the node is turned off.

*2: If the following commands are executed on the operating node between the time a beginning of the installation and the completion of the system configuration information recovery, installation is terminated with error. If you want to execute the following commands, contact the system administrator to execute those commands after completing the recovery.

- fscreate / fsdelete / fsexpand / fsimport / fsexport
- syncstart / syncstop / syncexpand
- horcimport / horcvminport / horcexport

Depending on the OS version or mode, the two cases are available. One is to display the startup procedure result log in the window and the other one is to display the progress of the startup procedure in the window.

- New Installation: Set Up “Chapter 3 New Installation” (SETUP 03-0000)
- Update Installation: Set Up “Chapter 4 Update Installation” (SETUP 04-0000)

Figure 2.1-1 Selection of Installation Types (SETUP 02-0020) shows which installation should be executed depending on the case.

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2.1 Selecting the Installation to be Executed

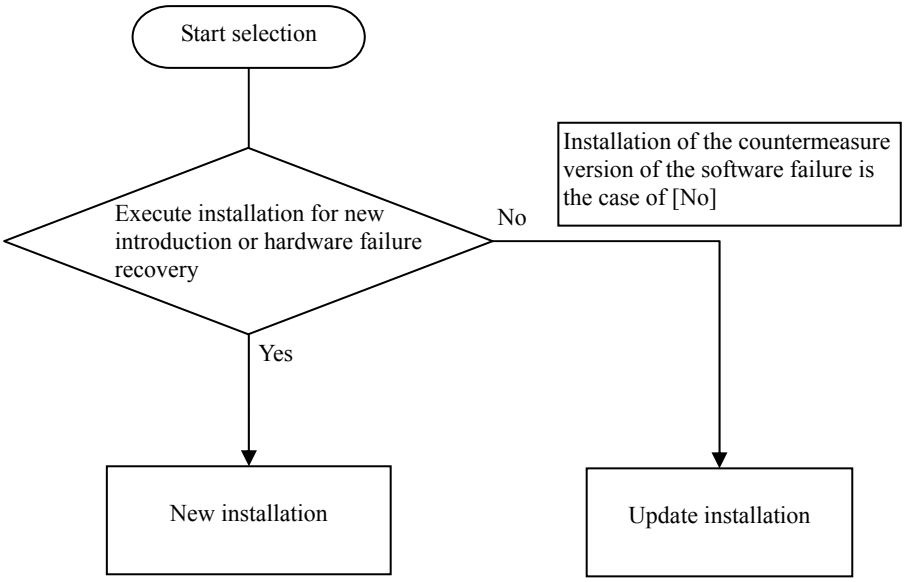

Figure 2.1-1 Selection of Installation Types

Perform the installation operation referring to each chapter and the overview shown below.

- New installation: Set Up “2.2 Overview of New Installation” (SETUP 02-0030)
- Update installation: Set Up “2.3 Overview of Update Installation” (SETUP 02-0040)

The installation of one node is described. When the installation of multiple nodes is necessary, repeat the operation.

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2.2 Overview of New Installation

When executing new installation, execute in order from 3.1 to 3.4 in Set Up "Chapter 3 New Installation" (SETUP 03-0000).

When installation is necessary for the second node in the cluster configuration, execute in order from 3.1 to 3.4 in Set Up "Chapter 3 New Installation" (SETUP 03-0000) for the second node.

After completing the installation, execute Set Up "5.1 Setting/Confirmation after New Installation" (SETUP 05-0000).

The flow chart executed in the new installation is shown below.

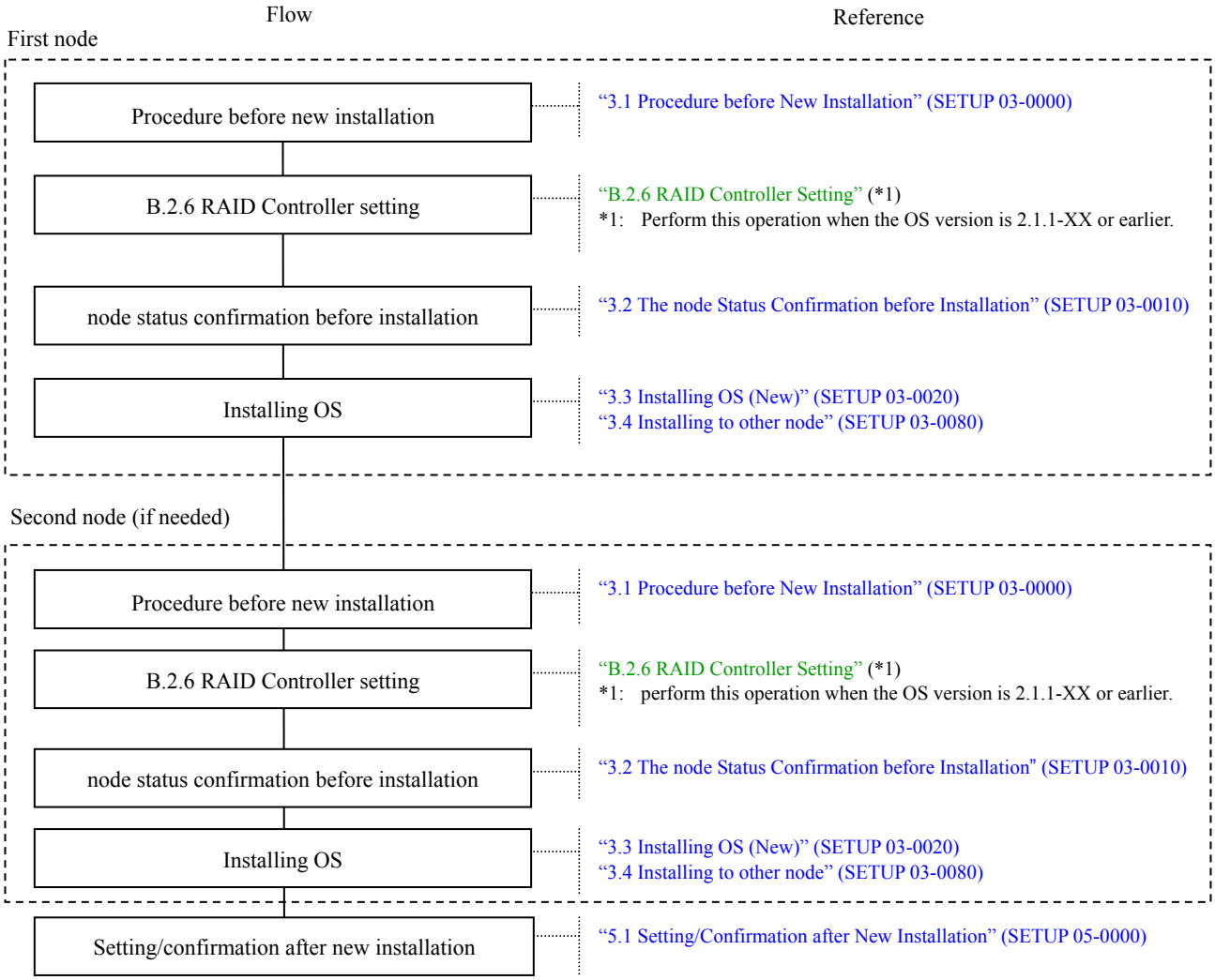

Figure 2.2-1 Flow of New Installation Procedure

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2.3 Overview of Update Installation

When executing update installation, execute in order from 4.1 to 4.3 in Set Up "Chapter 4 Update Installation" (SETUP 04-0000).

When installation is necessary for the second node in the cluster configuration, execute in order from 4.1 to 4.3 in Set Up "Chapter 4 Update Installation" (SETUP 04-0000) for the second node.

After completing the installation, execute Set Up "5.2 Setting/Confirmation after Update Installation" (SETUP 05-0080).

The flow chart executed in the update installation is shown below.

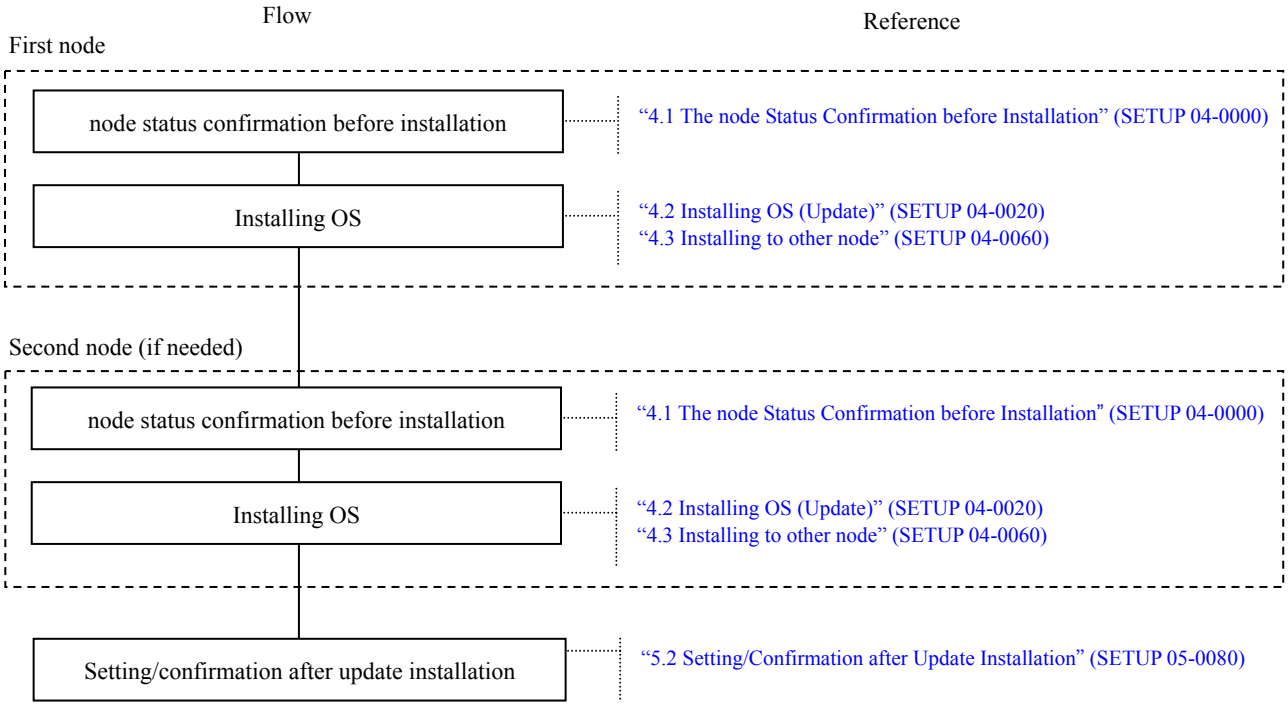

Figure 2.3-1 Flow of Update Installation Procedure

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Chapter 3 New Installation

3.1 Procedure before New Installation

Before the new installation, check whether the node configuration is the single or the cluster.

For the confirmation of the node configuration, refer to "B.4 Setting value when the OS is installed".

Before starting new installation, it is necessary to confirm the BMC setting in the both cluster configuration and the single node configuration.

Refer to "B.2.5 BMC Setting Procedure" for the BMC setting for confirming the virtual disk setting of the internal drive.

Table 3.1-1 shows the new installation procedures for the first time and for recovery from a failure.

NOTE: The BMC setting is required to newly install Hitachi Data Ingestor.
Execute the BMC setting with reference to "B.2.5 BMC Setting Procedure".

Table 3.1-1 New Installation Procedures

#	Procedures	Cluster configuration		Single node configuration	
		For new installation	For recovery from a failure	For new installation	For recovery from a failure
1	"B.2.5 BMC Setting Procedure"	Y	N (*1)	Y	N (*1)
2	"B.2.6 RAID Controller Setting"	Y (*2)	Y (*2)	—	—
3	Stop the cluster (*3)	N	Y	N	N
4	Set Up "3.2 The node Status Confirmation before Installation" (SETUP 03-0010)	Y	Y	Y	Y
5	Set Up "3.3 Installing OS (New)" (SETUP 03-0020)	Y	Y	Y	Y
6	Set Up "3.4 Installing to other node" (SETUP 03-0080)	Y	Y	—	—
7	Set Up "5.1 Setting/Confirmation after New Installation" (SETUP 05-0000)	Y	Y	Y	Y

Y: The procedure needs to be executed.
N: The procedure does not need to be executed.
-: The single node configuration is not necessary.
*1: The BMC setting is required when the motherboard is recovered from failures.
*2: Perform this operation when the OS version is 2.1.1-XX or earlier.
*3: Perform this operation when the OS version is 3.2.3-04 or earlier.
Execute the clstatus command ("Maintenance Tool '2.2 Displaying the Cluster Status (clstatus)' (MNTT 02-0040,)") to check the cluster status. If the cluster status is not "INACTIVE," notify the system administrator that the service will be stopped, and then stop the cluster by executing the clstop command ("Maintenance Tool '2.49 Stopping the Cluster (clstop)' (MNTT 02-2720.)")

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3.2 The node Status Confirmation before Installation

It is necessary to terminate the node before executing installation.
Check that the power indicator of the node is turned off.

If the power indicator of the node lights up, terminate the node by pressing the power button a little longer.

For the position of the power indicator, refer to "Installation '2.1 Procedure for Turning on and off the Power' (INST 02-0000)".

When the node termination is completed, confirm that the OS is terminated on the login prompt window. Refer to "B.1.2 Startup Confirmation of the OS by Using KVM" for the method of this checking.

After confirming that the OS is terminated on the login prompt window, proceed to Set Up "3.3 Installing OS (New)" (SETUP 03-0020).

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3.3 Installing OS (New)

"Hitachi Data Ingestor" have different procedures for OS installation.

Check the media name indicated in the installation media.

In addition, OS installation procedures differ depending on the node configuration. Refer to "B.4 Setting value when the OS installation" for how to check whether it is the single node configuration or the cluster configuration.

If it is the cluster configuration, refer to Set Up "3.3.1 New OS installation in the cluster configuration" (SETUP 03-0021), and if it is the single node configuration, refer to Set Up "3.3.2 New OS installation in the single node configuration" (SETUP 03-0051).

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3.3.1 New OS installation in the cluster configuration

(1) Confirm the BOOT priority order.
Refer to "B.2.3 BOOT Priority Order" for the confirmation method.
During this procedure of the BOOT Priority Order, set the installation media to the DVD drive of the node before exiting the BIOS setup menu.

(2) After a while, the installation mode selection window is displayed as in Figure 3.3.1-1.
Enter "1" and press [Enter] key.

```
[Mode select]
1. Initial install
2. Update install
3. Maintenance

KAQG61000-I Select a mode, and then press the [Enter] key. (1/2/3): 1
```

Figure 3.3.1-1 Installation Mode Selection window

NOTE:
- If the installation mode selection window in Figure 3.3.1-1 is not displayed even after some time passes and "No boot device available" or "Operating System not found" is displayed, the BIOS boot sequence setting may not be correct. Reboot the node by pressing [Ctrl]+[Alt]+[Delete] keys, and then execute from "B.2.3 BOOT Priority Order (3)" again to check and correct the BIOS settings. In the case Remote console is used, hold down "Alt" key and press "L" key to reboot the node. The Remote console has the restriction on the operation of the [Alt] key. In the case of D51B-2U, refer to "QuantaGrid Series D51B-2U Technical Guide" to perform the key operations including the [Alt] key.
  If there is no error in the BIOS settings, reboot the node.
  See the following for the execution procedures.
  After that, check whether the DVD drive access lamp blinks at the time of starting the node. If it does not blink, remove the media from the DVD drive, and then replace the DVD drive with referring to "Replacement '1.2 Parts Replacement Only when the Node is Turned Off' (REP 01-0070)".
  If the DVD drive access lamp blinks, but the installation mode selection window in Figure 3.3.1-1 is not displayed, there may be a failure in the media. Contact the Technical Support Center and obtain new installation media.
- In the installation mode selection window in Figure 3.3.1-1, if you press [Ctrl]+[C] keys, a message to confirm the cancellation of the installation "KAQG61006-Q Are you sure you want to cancel the installation? (y/n):" is displayed.
  To cancel the installation, enter "y" in response to the KAQG61006-Q message, and then press [Enter] key .KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node is executed.
  To continue the installation, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter "n" in response to the KAQG61006-Q message, and then press [Enter] key.

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(3) Item inputting window as shown in Figure 3.3.1-2 is displayed.
Enter “2” and press [Enter] Key.

```
[Install parameters]
1. Single
2. Cluster
Select an installation model, and then press the [Enter] key. (1/2):
```

Figure 3.3.1-2 Item Inputting window 1

(4) Different contents will be displayed depending on the installed OS version.
If the installed OS version is earlier than 3.1.0-XX, refer to (4-1).
If the installed OS version is 3.1.0-XX or later, refer to Set Up “3.3.1 (4-2) When the installed OS version is 3.1.0-XX or later” (SETUP 03-0031).

(4-1) When the installed OS version is earlier than 3.1.0-XX
The private maintenance port IP address input window is displayed as in Figure 3.3.1-3.
Enter the private maintenance port IPv4 address of the node to be installed.
If the disk array subsystem is AMS2000 series, MSS, set the IPv4 address of the same network segment of AMS2000 series, MSS maintenance port to the IP address of private maintenance port. If the disk array subsystem is USP V, USP VM, or VSP, set the IPv4 address of the private maintenance port as follows.

Enter the following IPv4 addresses normally.

Node0: 10.0.0.51
Node1: 10.0.0.52

When the customer needs to set another network segment for using the above-mentioned network segment, any of the following segments must be set.

“192.168.0.XXX”,”192.168.233.XXX”,”172.23.211.XXX”,”10.197.181.XXX”

In “XXX”, enter “51” for node 0, and enter “52” for node 1.
When other values are used, select sequential numbers between 50 and 253.

When executing the installation for the failure recovery, check the label attached on the node, and enters the written IPv4 address.

```
[Install parameters]
IP Address at the Maintenance port:
```

Figure 3.3.1-3 Private Maintenance port IP Address Input window

NOTE:
- The subnet mask of the Private Maintenance port is fixed to “255.255.255.0”.
- In the Private Maintenance port IP address input window in Figure 3.3.1-3, if you press [Ctrl]+[C] keys, a message to confirm the cancellation of the installation “KAQG61006-Q Are you sure you want to cancel the installation? (y/n):” is displayed.
  To cancel the installation, enter “y” in response to the KAQG61006-Q message, and then press [Enter] key. KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node is executed.
  To continue the installation, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter “n” in response to the KAQG61006-Q message, and then press [Enter] key .

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(4-2) When the installed OS version is 3.1.0-XX or later

The private maintenance port IPv4 address input window is displayed as in Figure 3.3.1-4.
Enter the private maintenance port IPv4 address of the node to be installed.
If the disk array subsystem is AMS2000 series, MSS, or HUS100 series, set the IPv4 address of the same network segment of the maintenance port for AMS2000 series, MSS, or HUS100 series to the IP address of the private maintenance port. If the disk array subsystem is USP V, USP VM, VSP, VSP G1000, VSP Gx00/VSP Fx00 or HUS VM, set the IPv4 address of the private maintenance port as follows.

Enter the following IPv4 addresses normally.

Node0: 10.0.0.51
Node1: 10.0.0.52

When the customer needs to set another network segment for using the above-mentioned network segment, any of the following segments must be set.

“192.168.0.XXX”,”192.168.233.XXX”,”172.23.211.XXX”,”10.197.181.XXX”

In “XXX”, enter “51” for node 0, and enter “52” for node 1.
When other values are used, select sequential numbers between 50 and 253.

After entering the private maintenance port IPv4 address, the private maintenance port IPv6 address input window is displayed as in Figure 3.3.1-5.
Unless specifically instructed, press [Enter] key without entering anything.
If entry of an IPv6 address is instructed, enter the instructed IPv6 address.
However, the IPv6 address of the Private Maintenance port is fixed until [fe80::1:], and therefore enter the last octet part only. The range of values which can be entered is from 0000 to 00ff.

When executing the installation for the failure recovery, check the label attached on the node, and enters the written IP address.

```
[Install parameters]
Enter an IPv4, address and then press the [Enter] key.
IPv4 Address at the Maintenance port :
```

Figure 3.3.1-4 Private Maintenance port IPv4 Address Input window

```
[Install parameters]
Enter an IPv6 address, and then press the [Enter] key. (The fe80::1: part is fixed.
Only 00 to ff can be specified for the last part.) If the IPv6 address setting is
unnecessary, simply press the [Enter] key.
IPv6 Address at the Maintenance port: fe80::1:
```

Figure 3.3.1-5 Private Maintenance port IPv6 Address Input window

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NOTE:
- The subnet mask of the Private Maintenance port IPv4 Address is fixed to “255.255.255.0”.
- The prefix length of the Private Maintenance port IPv6 address is fixed to “64”.
- In Private Maintenance port IPv4 address input window (Figure 3.3.1-4) or Private Maintenance port IPv6 address input window (Figure 3.3.1-5), if you press [Ctrl]+[C] keys, a message to confirm the cancellation of the installation “KAQG61006-Q Are you sure you want to cancel the installation? (y/n):” is displayed.
  To cancel the installation, enter “y” in response to the KAQG61006-Q message, and then press [Enter] key. KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node is executed.
  To continue the installation, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter “n” in response to the KAQG61006-Q message, and then press [Enter] key .

(5) Different contents will be displayed depending on the installed OS version.
If the installed OS version is earlier than 3.1.0-XX, refer to (5-1).
If the installed OS version is 3.1.0-XX or later, refer to Set Up “3.3.1 (5-2) When the installed OS version is 3.1.0-XX or later” (SETUP 03-0041).

(5-1) When the installed OS version is earlier than 3.1.0-XX
The installation confirmation window is displayed as in Figure 3.3.1-6.
When the node is in cluster configuration, [Installation model:] is displayed as [Cluster].

Check the following display contents.

- Type of installation
- node configuration
- Whether to execute the RAID reconfiguration
- IP address of the private maintenance port

Refer to the “B.4 Setting value when installing the OS” and check if there is any error in the displayed contents.
It returns to step (2).

If there is no error, enter “y” and press [Enter] key.
It proceeds to step (6).

```
[Mode]
1. Initial install
[Install parameters]
Installation model:                 Cluster
Format disk:                        Yes (Delete all data on the disk)
IP Address at the Maintenance port: 10.197.181.51
[Information on product to be installed]
Product name:                       Version
Hitachi Data Ingestor               03-00-00-XX
KAQG61005-Q Are you sure you want to execute the selected mode? (initial install) (y/n):
```

Figure 3.3.1-6 Installation Confirmation window

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(5-2) When the installed OS version is 3.1.0-XX or later
The installation confirmation window is displayed as in Figure 3.3.1-7.
When the node is in cluster configuration, [Installation model:] is displayed as [Cluster].

Check the following display contents.

- Type of installation
- node configuration
- Execution of RAID reconfiguration (check that “Format disk” is “Yes”)
- IPv4 address of the private maintenance port
- IPv6 address of the private maintenance port (This is a blank space if IPv6 address is not input.)

Depending on the version to be installed, “Initial install (delete all data on the disk)” is displayed at the end of the KAQG61005-Q message.
If there is any error found, enter “n” and press [Enter] key.
It returns to step (2).
If there is no error found, enter “y” and press [Enter] key.
It proceeds to step (6).

The display contents differ by the version to be installed.
If the OS version to be installed is 3.1.1-XX or earlier, it is displayed as the format of “XX-XX-XX-XX-XX.”
If the OS version to be installed is 3.2.0-XX or later, it is displayed as the format of “X.X.X-XX.”

```
[Mode]
1  Initial install
[Install parameters]
Installation model:Cluster
Format disk: Yes
IPv4 Address at the Maintenance port:10.197.181.51
IPv6 Address at the Maintenance port:
[Information on product to be installed]
Product name                    Version
XXXXXXXXXXXXXXXXX(*1)           3.2.0-XX
KAQG61005-Q Are you sure you want to execute the selected mode?
(initial install(delete all data on the disk)) (y/n):
```

Figure 3.3.1-7 Installation Confirmation window

*1: The part of “XXXXXXXXXXXXXXXXX” differs the output contents by the configuration.
It shows as “Hitachi Data Ingestor”.

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(6) The installation progress window is displayed as in Figure 3.3.1-8.
When the installation is completed, [Completed] is displayed in the Status.
When the installation failed, an error message is displayed.
In that case, refer to Set Up “Chapter 6 Troubleshooting at the Time of OS Installation Failure” (SETUP 06-0000).

```
[Status]
Status:   0% (Time elapsed:   0 min. Estimated time remaining: calculating...)
Status:  20% (Time elapsed:   0 min. Estimated time remaining: calculating...)
Status:  30% (Time elapsed:   0 min. Estimated time remaining:      15 min.)
Status:  55% (Time elapsed:   5 min. Estimated time remaining:      10 min.)
Status:  70% (Time elapsed:   7 min. Estimated time remaining:       8 min.)
Status:  90% (Time elapsed:  12 min. Estimated time remaining:       1 min.)
Status:  Completed
```

*: If the OS version is 4.2.0-XX or earlier, elapsed time and remaining time are not displayed.

Figure 3.3.1-8 Installation Progress window

NOTE: The installation normally takes about 15 minutes after the progress is displayed.

(7) When the installation is terminated normally, the Installation Termination Window is displayed as in Figure 3.3.1-9. Remove the installation media according to the message, and then press [Enter] key.
Reboot is executed.

```
KAQG61001-I Eject the installation media, and then press [Enter] key.
```

Figure 3.3.1-9 Installation Termination window

During the OS startup, the LILO Boot Menu window in Figure 3.3.1-10 may be displayed on the console window, and the OS startup process may be aborted.
If this happens, press [Enter] key to resume the OS startup process.
If the OS does not start even if the [Enter] key is pressed, press the [Ctrl] + [Alt] + [Delete] keys to restart the node. If the remote console is used, press the [L] key while pressing the [Alt] key to restart the node.

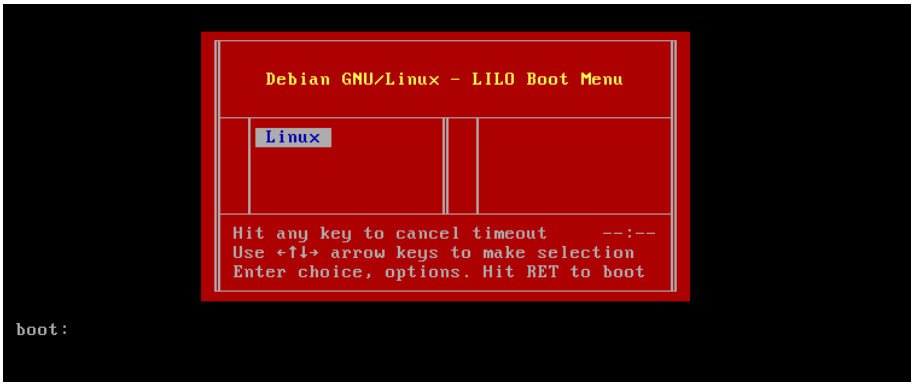

Figure 3.3.1-10 LILO Boot Menu window

NOTE: A remote console has the restriction on the operation of the [Alt] key. If using the [Alt] key is indicated, take the following precautions.
- In the case of D51B-2U, refer to “QuantaGrid Series D51B-2U Technical Guide” to perform the key operations including the [Alt] key.

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(8) After completing the rebooting, check that the login prompt is displayed on the console window.
If it is displayed, the installation is completed.
Also, switch to the login window by pressing [Ctrl] +[F2] key as the setting window shown in Figure 3.3.1-11 is displayed after completing the installation of the version 4.1.1-XX or later.

Setting window

```
(Hint: Press Ctrl + F2 to go to the Login screen.)

[Select mode]
1. Set management port and BMC
2. View management port and BMC

KAQM05163-I Select a mode, and then press [Enter]. (1 or 2):
```

Ctrl+F2 ⇩ ⇧ Ctrl+F1

Login window

```
(Hint: Press Ctrl + F1 to go to the Settings screen.)

 xxxxxxxx(device-serial-number) login:
```

Figure 3.3.1-11 Console Window after Rebooting

NOTE:
- Normally, it takes approximately 6 minutes to display the login prompt on the console window after executing step (7.)
- If the login prompt is not displayed on the console window even after 30 minutes passed after step (7) is executed, collect the OS log by following the procedures below, and send it to the Technical Support Center.
  1. Turn off the power to the node by refer to "Installation '2.1.2.3 Terminating the OS forcibly by using the power button' (INST 02-0090)".
  2. Start the node in the maintenance mode by refer to Set Up "6.3 Maintenance Mode" (SETUP 06-0050).
  3. Acquire the log file by refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".

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3.3.2 New OS installation in the single node configuration

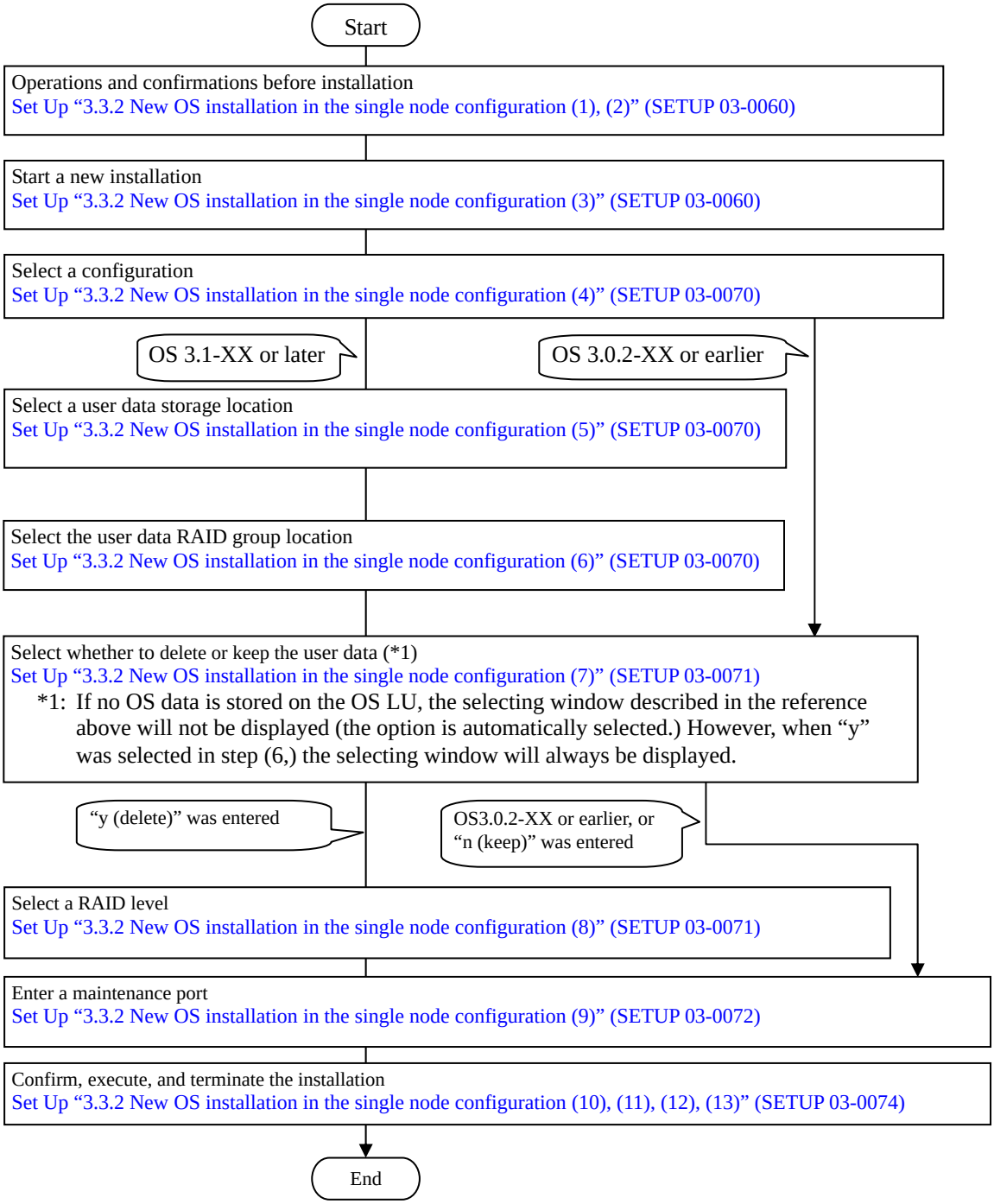

Figure 3.3.2-1 Overview Flow of New Installation Procedure

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(1) In the configuration connected to the disk array subsystem, disconnect the node side FC cable which connects the node with the disk array subsystem/FC-SW.
For the location of the FC cable to disconnect, refer to "A.2.2.2 Port arrangement and port names."
When the OS version is 3.2.3-XX or earlier and in the configuration connected to the disk array subsystem, disconnect the node side end of the FC cable which connects the node and the disk array subsystem/FC-SW.

(2) Confirm the BOOT priority order.
Refer to "B.2.3 BOOT Priority Order" for the confirmation method.
During this procedure of the BOOT Priority Order, set the installation media to the DVD drive of the node before exiting the BIOS setup menu.

(3) After a while, the installation mode selection window is displayed as in Figure 3.3.2-2.
Enter "1" and press [Enter] key.

```
[Mode select]
1. Initial install
2. Update install
3. Maintenance

KAQG61000-I Select a mode, and then press the [Enter] key. (1/2/3): 1
```

Figure 3.3.2-2 Installation Mode Selection window

NOTE:
- If the installation mode selection window in Figure 3.3.2-2 is not displayed even after some time passes and "No boot device available" or "Operating System not found" is displayed, the BIOS boot sequence setting may not be correct. Reboot the node by pressing [Ctrl]+[Alt]+[Delete] keys, and then execute from "B.2.3 BOOT Priority Order (3)" again to check and correct the BIOS settings. In the case Remote console is used, hold down "Alt" key and press "L" key to reboot the node. The Remote console has the restriction on the operation of the [Alt] key. In the case of D51B-2U, refer to "QuantaGrid Series D51B-2U Technical Guide" to perform the key operations including the [Alt] key.
  If there is no error in the BIOS settings, reboot the node.
  See the following for the execution procedures.
  After that, check whether the DVD drive access lamp blinks at the time of starting the node. If it does not blink, remove the media from the DVD drive, and then replace the DVD drive with referring to "Replacement '1.2 Parts Replacement Only when the Node is Turned Off' (REP 01-0070)".
  If the DVD drive access lamp blinks, but the installation mode selection window in Figure 3.3.2-2 is not displayed, there may be a failure in the media. Contact the Technical Support Center and obtain new installation media.
- In the installation mode selection window in Figure 3.3.2-2, if you press [Ctrl]+[C] keys, a message to confirm the cancellation of the installation "KAQG61006-Q Are you sure you want to cancel the installation? (y/n):" is displayed.
  To cancel the installation, enter "y" in response to the KAQG61006-Q message, and then press [Enter] key .KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node is executed.
  To continue the installation, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter "n" in response to the KAQG61006-Q message, and then press [Enter] key.

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(4) Configuration selecting window as shown in Figure 3.3.2-3 is displayed.
Enter “1” and press [Enter] key.
If figure 3.3-2-4 is displayed, proceed to step (5).
If figure 3.3-2-6 is displayed, proceed to step (7).
If figure 3.3-2-7 is displayed, proceed to step (8).

```
[Install parameters]
1. Single
2. Cluster
Select an installation model, and then press the [Enter] key. (1/2):
```

Figure 3.3.2-3 Configuration Selecting window

(5) The user data location selecting window as shown in Figure 3.3.2-4 is displayed.
Select the user data storing location with reference to “B.4 Setting value when the OS installation”.

```
[Install parameters]
1. Internal disk
2. External disk
3. Internal disk (no hardware RAID card)
Select a location for saving the user data, and then press the [Enter] key. (1/2/3):
```

*: If the OS version is earlier than 4.1.1-XX, the selection item [3] is not displayed.

Figure 3.3.2-4 User Data Location Selecting window

(6) Confirm whether separate RAID groups for the OS data and the user data with reference to “B.4 Setting value when the OS installation.”
If you want to separate RAID groups for the OS data and the user data, enter “y,” and if not, enter “n.”

```
[Install parameters]
Do you want to use separate RAID groups for the OS data and the user data? (y/n):
```

Figure 3.3.2-5 User Data RAID Group Location Selecting window

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(7) The user data delete window is displayed.
When the user data is not stored on the OS LU, the window will not be displayed.
If [1. Internal disk] was selected in step (5,) the next procedure will automatically be step (8,) and if [2.External disk] was selected, it will automatically be step (9.)

When the user data is stored on the OS LU, or "y" was selected in step (6,) the following window will be displayed.

Refer to "B.4 Setting value when the OS is installed", and check the necessity of RAID rebuilding.
Press "y" key and proceed to step (8) when executing the RAID reconfiguration. However, proceed to step (9) if you have selected [2. External disk] in step (5.)

When not executing the RAID reconfiguration, enter "n" key and proceed to Set Up "3.3.2 New OS installation in the single node configuration (9)" (SETUP 03-0072.)

NOTE: In the case of executing the RAID reconfiguration, all the user data will be initialized.

```
[Install parameters]
Do you want to delete the existing data? To delete all data on the disk, enter [y], and then press the
[Enter] key. To keep any existing data, enter [n], and then press the [Enter] key, or simply press the
[Enter] key. (Default = n) (y/n):
```

Figure 3.3.2-6 User Data Delete window

(8) The RAID level selecting window is displayed.
Select always [3. RAID 6] as a RAID level.
Figure 3.3.2-7 is an example when the OS version is 3.2.3-XX or later.

NOTE:
- When the OS version is 3.0.2-XX or earlier, "RAID10" will not be displayed on the selecting window.
- When the OS version is 3.2.2-XX or earlier, the message to be displayed is [Select a RAID level, and then press the [Enter] key. (1/2/3/4) :].

```
[Install parameters]
1. RAID1
2. RAID5
3. RAID6
4. RAID10
Select a RAID level for the user data, and then press the [Enter] key. (1/2/3/4) : 3
```

Figure 3.3.2-7 User Data RAID Level Selecting window (when OS version is 3.2.3-XX or later)

*: When the installation media is HDI, windows as shown in the figures above may not be displayed.

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(9) Enter an IP address of the maintenance port. Different contents will be displayed depending on the installed OS version.
The private maintenance port IPv4 address input window is displayed as shown in Figure 3.3.2-8.
Figure 3.3.2-8 shows a display example when the OS version is 3.1.0-XX or later. If the OS version is 3.0.2-XX or earlier, the message to be displayed will be [IP Address at the Maintenance port :].
Enter the private maintenance port IPv4 address of the node to be installed.
If the disk array subsystem is AMS2000 series, MSS, or HUS100 series, set the IPv4 address of the same network segment of the maintenance port for AMS2000 series, MSS or HUS100 series to the IP address of the private maintenance port. If the disk array subsystem is USP V, USP VM, VSP, VSP G1000, VSP Gx00/VSP Fx00 or HUS VM, set the IPv4 address of the private maintenance port as follows.

Use the following IPv4 address usually.

Node0: 10.0.0.51

When the customer needs to set another network segment for using the above-mentioned network segment, any of the following segments must be set.

“192.168.0.XXX”,”192.168.233.XXX”,”172.23.211.XXX”,”10.197.181.XXX”

Enter “51” in “XXX.”
When using the other value, select a number between 50 and 253.

When the OS version is 3.1.0-XX or later, the private maintenance port IPv6 address input window is displayed as shown in Figure 3.3.2-9 after entering the private maintenance port IPv4 address.
Unless specifically instructed, press [Enter] key without entering anything.
If entry of an IPv6 address is instructed, enter the instructed IPv6 address.
However, the IPv6 address of the Private Maintenance port is fixed until [fe80::1:], and therefore enter the last octet part only. The range of values which can be entered is from 0000 to 00ff.

When executing the installation for the failure recovery, check the label attached on the node, and enters the written IP address.

```
[Install parameters]
Enter an IPv4, address and then press the [Enter] key.
IPv4 Address at the Maintenance port :
```

Figure 3.3.2-8 Private Maintenance port IPv4 Address Input window

```
[Install parameters]
Enter an IPv6 address, and then press the [Enter] key. (The fe80::1: part is fixed.
Only 00 to ff can be specified for the last part.) If the IPv6 address setting is
unnecessary, simply press the [Enter] key.
IPv6 Address at the Maintenance port: fe80::1:
```

Figure 3.3.2-9 Private Maintenance port IPv6 Address Input window

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NOTE:
- The subnet mask of the Private Maintenance port IPv4 Address is fixed to “255.255.255.0”.
- The prefix length of the Private Maintenance port IPv6 address is fixed to “64”.
- In Private Maintenance port IPv4 address input window (Figure 3.3.2-8) or Private Maintenance port IPv6 address input window (Figure 3.3.2-9), if you press [Ctrl]+[C] keys, a message to confirm the cancellation of the installation “KAQG61006-Q Are you sure you want to cancel the installation? (y/n):” is displayed.
  To cancel the installation, enter “y” in response to the KAQG61006-Q message, and then press [Enter] key. KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node is executed.
  To continue the installation, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter “n” in response to the KAQG61006-Q message, and then press [Enter] key .

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(10) The installation confirmation window is displayed as shown in Figure 3.3.2-10. The contents to be displayed differ depending on the installed OS version.
[Installation model] to be displayed as [Single.]
If the RAID reconfiguration is executed, [Format disk:] is displayed as [Yes (Delete all data on the disk)] or [Yes,] and if the RAID reconfiguration is not executed, [Format disk:] is displayed as [No.]
Also, the storage location selected in step (5) is displayed in [Location for saving the user data,] and the RAID level selected in step (8) is displayed in [RAID level for the user data:.]

Check the following contents.

- Type of installation
- node configuration
- User data storage location (*1)
- Whether to use separate RAID groups for the OS and the user data (only when the internal drive has been selected as the storage location for the user data) (*1)
- Whether to execute the RAID reconfiguration
- RAID level (when the RAID level was selected)
- IPv4 address of the private maintenance port
- IPv6 address of the private maintenance port (this will be blank if IPv6 address was not input.) (*1)

*1: When the OS version is 3.0.2-XX or earlier, this will not be displayed.

If the RAID reconfiguration is executed, “Initial install (delete all data on the disk)” is displayed at the end of the KAQG61005-Q message depending on the version to be installed.
If there is any error found, enter “n” and press [Enter] key to return to step (3.)
If there is no error found, enter “y” and press [Enter] key to proceed to step (11.)

The contents differ depending on the version to be installed.
If the OS version to be installed is 3.1.1-XX or earlier, it is displayed as the format of “XX-XX-XX-XX-XX.”
If the OS version to be installed is 3.2.0-XX or later, it is displayed as the format of “X.X.X-XX.”

```
[Mode]
1 Initial install
[Install parameters]
Installation model: Single
Location for saving the user data: Internal disk
Separate RAID groups for the OS data and the user data: Yes
Format disk: Yes
RAID level for the user data: RAID6
IPv4 Address at the Maintenance port: 10.197.181.51
IPv6 Address at the Maintenance port:
[Information on product to be installed]
Product name                    Version
XXXXXXXXXXXXXXXXX(*2)           3.2.0-XX
KAQG61005-Q Are you sure you want to execute the selected mode?
(initial install (delete all data on the disk)) (y/n):
```

Figure 3.3.2-10 Installation Confirmation window

*2: The part of “XXXXXXXXXXXXXXXXX” differs the output contents by the configuration.
It shows as “Hitachi Data Ingestor”.

NOTE: Figure 3.3.2-10 is a display example of Installation confirmation window when the OS version is 3.2.3-XX. If the OS version is 3.2.2-XX or earlier, [RAID level for the user data] is displayed as [RAID level.]

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(11) The installation progress window is displayed as in Figure 3.3.2-11.
When the installation is completed, “Completed” is displayed in [Status.]
When the installation failed, an error message is displayed.
In that case, refer to Set Up “Chapter 6 Troubleshooting at the Time of OS Installation Failure” (SETUP 06-0000).

```
[Status]
Status:   0% (Time elapsed:   0 min. Estimated time remaining: calculating...)
Status:  20% (Time elapsed:   0 min. Estimated time remaining: calculating...)
Status:  30% (Time elapsed:   0 min. Estimated time remaining:  15 min.)
Status:  55% (Time elapsed:   5 min. Estimated time remaining:  10 min.)
Status:  70% (Time elapsed:   7 min. Estimated time remaining:   8 min.)
Status:  90% (Time elapsed:  12 min. Estimated time remaining:   1 min.)
Status:  Completed
```

*: If the OS version is 4.2.0-XX or earlier, elapsed time and remaining time are not displayed.

Figure 3.3.2-11 Installation Progress window

NOTE: The installation normally takes about 15 minutes after the progress is displayed.

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(12) When the installation is terminated normally, the Installation Termination Window is displayed as in Figure 3.3.2-12. Remove the installation media according to the message, and then press [Enter] key.
Reboot is executed.

KAQG61001-I Eject the installation media, and then press [Enter] key.

Figure 3.3.2-12 Installation Termination window

During the OS startup, the LILO Boot Menu window in Figure 3.3.2-13 may be displayed on the console window, and the OS startup process may be aborted.
If this happens, press [Enter] key to resume the OS startup process.
If the OS does not start even if the [Enter] key is pressed, press the [Ctrl] + [Alt] + [Delete] keys to restart the node. If the remote console is used, press the [L] key while pressing the [Alt] key to restart the node.

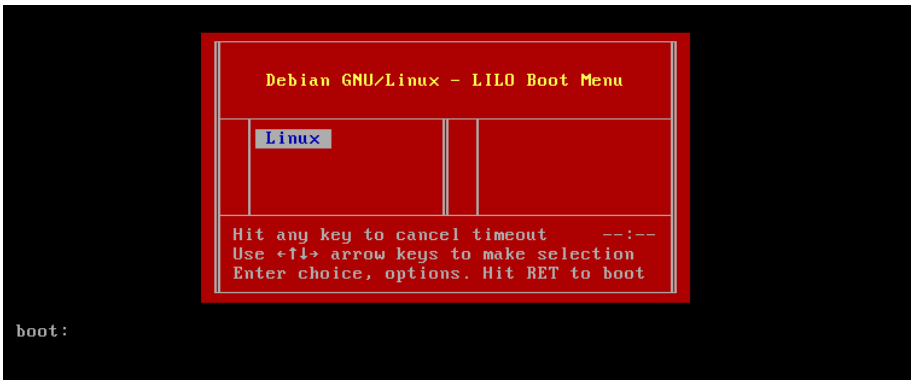

Figure 3.3.2-13 LILO Boot Menu window

NOTE: A remote console has the restriction on the operation of the [Alt] key. If using the [Alt] key is indicated, take the following precautions.

- In the case of D51B-2U, refer to “QuantaGrid Series D51B-2U Technical Guide” to perform the key operations including the [Alt] key.

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(13) After completing the rebooting, check that the login prompt is displayed in the console.
If the login prompt is displayed, the installation is completed.
If the setting window shown in Figure 3.4.2-14 is displayed after the installation, press [Alt] + [F2] key (*) to switch to the login window and confirm.
If the setting window shown in Figure 3.4.2-15 is displayed, press [Ctrl] + [F2] key to switch to the login window and confirm.

*: Note that the remote console has the restriction with [Alt] key.
When using the remote console in CR210HM/CR220SM, perform the following three steps.
i Press [Alt] + [Z] key and hold [Alt] key down.
ii Press either [F1] or [F2] key solely to switch the window.
iii Press [Alt] + [Z] key and release [Alt] key.
In the case of D51B-2U, refer to “QuantaGrid Series D51B-2U Technical Guide”.

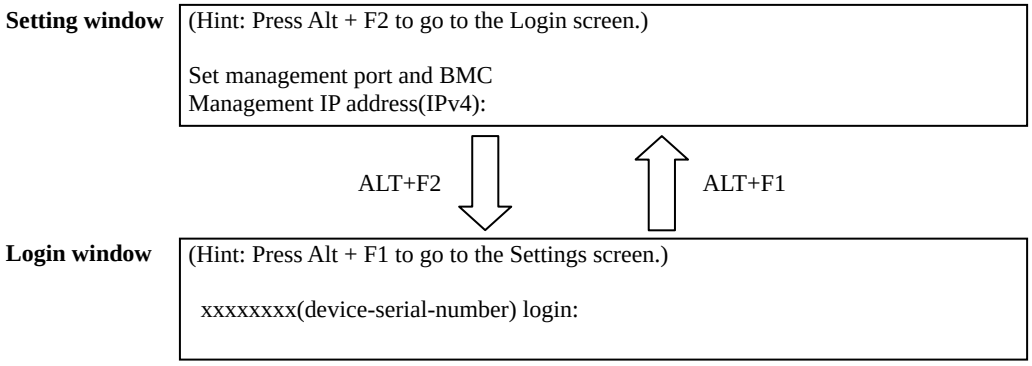

Figure 3.3.2-14 Console window in the single node configuration 1

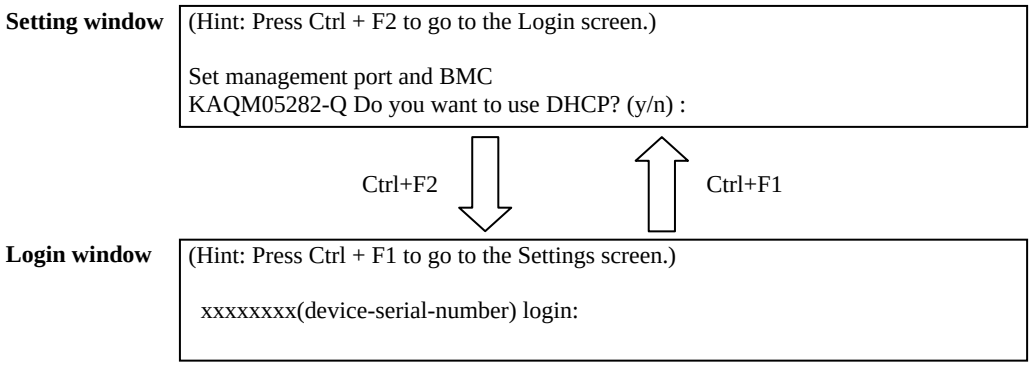

Figure 3.3.2-15 Console window in the single node configuration 2

NOTE:
- Normally, it takes approximately 6 minutes to display the login prompt on the console window after executing step (12).
- If the login prompt is not displayed on the console window even after 30 minutes passed after step (12) is executed, collect the OS log by following the procedures below, and send it to the Technical Support Center.
  1. Turn off the power to the node by refer to “Installation ‘2.1.2.3 Terminating the OS forcibly by using the power button’ (INST 02-0090)”.
  2. Start the node in the maintenance mode by refer to Set Up “6.3 Maintenance Mode” (SETUP 06-0050).
  3. Acquire the log file by refer to “Maintenance Tool ‘2.19 Collecting Logs (oslogget)’ (MNTT 02-1300)”.

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3.4 Installing to other node

(1) When new installation of both nodes is required in the cluster configuration
After installation of the first node is completed, execute installation for the second node.
To install the second node, execute from Set Up “3.1 Procedure before New Installation” (SETUP 03-0000) again.

(2) When installation is not necessary to a peer node forming a cluster, when installation to both nodes has been completed, or in the case of single node configuration
Execute the operation after the installation referring to Set Up “5.1 Setting/Confirmation after New Installation” (SETUP 05-0000).

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Chapter 4 Update Installation

4.1 The node Status Confirmation before Installation

4.1.1 Confirmed contents before update installation

It is required to confirm the following contents before update installation.

Execute versionlist command, and check the current installed OS version.
For the confirmation methods, refer to "Maintenance Tool '2.34 Displaying the Version of the OS (versionlist)' (MNTT 02-2060.)"
When the OS version is 2.2.1-XX or earlier, proceed to 4.1.1.1.
When the OS version is 3.0.0-XX or later, proceed to 4.1.1.2.
When the OS version is 3.2.3-XX or earlier, also execute 4.1.1.3.

4.1.1.1 When the OS version is 2.2.1-XX or earlier

(1) Check with the system administrator that the backup data of the system setting information of the OS Disk/cluster management LU is acquired.
If the backup data is not acquired, request the system administrator to acquire the backup data.
For the reference place in User's Guide, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Acquiring a system configuration file'' (GENE 00-0050)".

(2) Request the system administrator to collect and delete the core files and log files output in the status before the update installation.
For the reference place in User's Guide, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Collecting/deleting core files and log files'' (GENE 00-0050)".

4.1.1.2 When the OS version is 3.0.0-XX or later

(1) Get the system setting information of the OS Disk/cluster management LU. This is not necessary if the information is already acquired.
For the acquisition method of the system setting information, refer to "Maintenance Tool '2.66 Saving System Setting Information File (syslusave)' (MNTT 02-3530)".

(2) Request the system administrator to collect and delete the core files and log files output in the status before the update installation.
For the reference place in User's Guide, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Collecting/deleting core files and log files'' (GENE 00-0050)" for the cluster configuration or "General 'Reference Place in User's Guide for Operating Procedures Table 5 'Collecting/deleting core files and log files'' (GENE 00-0060)" for the single node configuration.

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4.1.1.3 When the OS version is 3.2.3-XX or earlier

NOTE: Execute the following procedures only when updating the OS version to 4.0.0-XX or later in the single node configuration.

(1) Check that no error has occurred on user LUs.
Execute the diskfreeget command to confirm that disk sizes are displayed in [Total disk size(GB)] and [Free disk size(GB).] For details of the command, refer to "Maintenance Tool '2.64 Displaying the Free Space Amount and the Whole Capacity Amount of User Disk (diskfreeget)' (MNTT 02-3430.)"

(2) If any error has occurred on user LUs, recover the failure by referring to "C.2.2.2 Failure determination procedure at the single node configuration."

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4.1.2 The node status confirmation before installation (in the cluster configuration)

It is necessary to terminate the OS of the node before executing installation.

Check that the power indicator of the node is turned off.

If the power indicator of the node lights up, refer to "Maintenance Tool '2.2 Displaying the Cluster Status (clstatus)' (MNTT 02-0040)" in the resource group operation and check that the resource group does not operate in the node to be executed the update installation. If the resource group is activating, request the system administrator to perform failover of the resource group and to set the "Node Status" to "INACTIVE".
For the reference place in User's Guide describing the details about stopping a node, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Stopping and starting a node'' (GENE 00-0040)", for the reference place in User's Guide describing the details about failover/failback of the resource group, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Changing the execution node of a resource group'' (GENE 00-0040)".

When the system administrator is absent, the maintenance personnel should contact to system administrator and get the permission from him/her to execute the above operation. For the execution procedure, refer to "Maintenance Tool '3.1 Failover and Node Termination to Execute the OS stop or the OS reboot' (MNTT 03-0000)".

After that, terminate the OS of the node referring to "Maintenance Tool '2.28 Terminating the OS of This Side Node (nasshutdown)' (MNTT 02-1740)".

For the position of the power indicator, refer to "Installation '2.1 Procedure for Turning on and off the Power' (INST 02-0000)".

NOTE: When requesting the system administrator for failback, failover and starting or stopping the cluster of a node, check the cluster status of the node in "Maintenance Tool '2.2 Displaying the Cluster Status (clstatus)' (MNTT 02-0040)" before the request.
After completing the operation by the system administrator, confirm the cluster status of the node with "Maintenance Tool '2.2 Displaying the Cluster Status (clstatus)' (MNTT 02-0040)".
However, if the system administrator is absent, the maintenance personnel should contact to system administrator and get the permission from him/her to execute the above operation. For the execution procedure, refer to "Maintenance Tool '3.1 Failover and Node Termination to Execute the OS stop or the OS reboot' (MNTT 03-0000)".

4.1.3 The node status confirmation before installation (in the single node configuration)

It is necessary to terminate the OS of the node before executing installation. Terminate the OS of the node with referring to "Maintenance Tool '2.28 Terminating the OS of This Side Node (nasshutdown)' (MNTT 02-1740)".
While executing update installation, the service of the node is in the state of stopping.

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4.2 Installing OS (Update)

(1) Confirm the BOOT priority order.
Refer to "B.2.3 BOOT priority Order" for the confirmation method.
During this procedure of the BOOT Priority Order, set the installation media to the DVD drive of the node before exiting the BIOS setup menu.

(2) After a while, the Installation Mode Selection Window is displayed as in Figure 4.2-1.
Enter "2" and press [Enter] key.
Proceed to (2-1) if Figure 4.2-2 is displayed and proceed to (3) if Figure 4.2-5 is displayed.

```
[Mode select]
1. Initial install
2. Update install
3. Maintenance

KAQG61000-I Select a mode, and then press the [Enter] key. (1/2/3): 2
```

Figure 4.2-1 Installation Mode Selection window

NOTE:
- If the installation mode selection window in Figure 4.2-1 is not displayed even after some time passes, but the OS is started, the BIOS boot sequence setting may not be correct. Reboot the node by pressing [Ctrl]+[Alt]+[Delete] keys, and then execute from "B.2.3 BOOT Priority Order (3)" again to check and correct the BIOS settings. In the case Remote console is used, hold down "Alt" key and press "L" key to reboot the node. The Remote console has the restriction on the operation of the [Alt] key. In the case of D51B-2U, refer to "QuantaGrid Series D51B-2U Technical Guide" to perform the key operations including the [Alt] key.
  If there is no error in the BIOS settings, reboot the node.
  See the following for the execution procedures.
  After that, check whether the DVD drive access lamp blinks at the time of starting the node. If it does not blink, remove the media from the DVD drive, and then replace the DVD drive with referring to "Replacement '1.2 Parts Replacement Only when the Node is Turned Off" (REP 01-0070)".
  If the DVD drive access lamp blinks, but the installation mode selection window in Figure 4.2-1 is not displayed, there may be a failure in the media. Contact the Technical Support Center and obtain new installation media.
- In the installation mode selection window in Figure 4.2-1, if you press [Ctrl]+[C] keys, a message to confirm the cancellation of the installation "KAQG61006-Q Are you sure you want to cancel the installation? (y/n):" is displayed.
  To cancel the installation, enter "y" in response to the KAQG61006-Q message, and then press [Enter] key. KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key .Shutdown of the node OS is executed.
  To continue the installation, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter "n" in response to the KAQG61006-Q message, and then press [Enter] key.

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(2-1) Before installation, if the system setting information of the OS Disk/cluster management LU is not acquired or if the syslusave command is executed without specifying the "--vup" option, Figure 4.2-2 Backup Confirmation Window 1 is displayed.

If you have acquired the system setting information, enter "y" and press [Enter] key.
Proceed to step (2-2).

If you have not acquired the system setting information, enter "n" and press [Enter] key.
Proceed to step (2-3).

```
[Install parameters]
The settings have not been saved. If there is no current settings file before the update is installed, the
system cannot be restored. Have you acquired the settings file? (y/n):
```

Figure 4.2-2 Backup Confirmation window 1

(2-2) Figure 4.2-3 Backup Confirmation Window 2 is displayed.

If you have acquired the system setting information before installation, enter "y" and press [Enter] key.
Proceed to step (3).

If you have acquired the system setting information before installation, enter "n" and press [Enter] key.
Proceed to step (2-3).

```
[Install parameters]
Check the acquired settings file. Was this file acquired during an update installation? (y/n):
```

Figure 4.2-3 Backup Confirmation window 2

(2-3) Figure 4.2-4 Backup Confirmation Window 3 is displayed.

For stopping update/installation for acquiring the system setting information, enter "n" and press [Enter] key.
For transiting to the Installation Termination Window of step (5), eject installation media, reboot, subsequently acquire the system setting information, and reexecute update/installation.

For executing update/installation without acquiring the system setting information as specifically instructed, enter "y" and press [Enter] key.
Proceed to step (3).

```
[Install parameters]
If there is no current settings file before the update is installed, the system cannot be restored if an
error occurs. Do you want to proceed? (y/n):
```

Figure 4.2-4 Backup Confirmation window 3

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(3) The Installation Confirmation Window is displayed as in Figure 4.2-5.
When the node is in cluster configuration, [Installation model:] is displayed as [Cluster].
When the node is in single node configuration, [Installation model:] is displayed as [Single].

Check the displayed contents, and if there is any error, enter “n” and press [Enter] key.
It returns to step (2).

If there is no error, enter “y” and press [Enter] key.
It proceeds to step (4).

The display contents differ by the version to be installed.
If the OS version to be installed is 3.1.1-XX or earlier, it is displayed as the format of “XX-XX-XX-XX-XX.”
If the OS version to be installed is 3.2.0-XX or later, it is displayed as the format of “X.X.X-XX.”

```
[Mode]
2. Update install
[Install parameters]
Installation model: Cluster
[Installed product information]
Product name                    Version
xxxxxxxxxxxxxxx (*1)            X.X.X-XX
[Information on product to be installed]
Product name                    Version
xxxxxxxxxxxxxxx (*1)            X.X.X-XX
KAQG61005-Q Are you sure you want to execute the selected mode? (update install) (y/n):
```

The version that is already installed.

The version that is about to install.

Figure 4.2-5 Installation Confirmation window

*1: The part of “XXXXXXXXXXXXXXXXX” differs the output contents by the configuration.
If it is the configuration of HDI for HCP, the configuration of HDI for Cloud, or the single node configuration, it shows as “Hitachi Data Ingestor”.

NOTE: If the version confirmed in the Installation Confirmation Window as in Figure 4.2-2 differs from the version to be installed, press [Ctrl] + [C] keys and abort the installation.
“KAQG61006-Q Are you sure you want to cancel the installation? (y/n):” is displayed. Enter “y”, and then press [Enter] key.
KAQG61001-I is displayed. Remove the installation media, and then press [Enter] key.
Shutdown of the node OS is executed.
Prepare the installation media of the correct version, and execute from step (1) again.

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(4) The Installation Progress Window is displayed as in Figure 4.2-6.
When the installation is completed, [Completed] is displayed in the Status.
When the installation failed, an error message is displayed.
In that case, refer to Set Up "Chapter 6 Troubleshooting at the Time of OS Installation Failure" (SETUP 06-0000).

```
[Status]
Status:   0% (Time elapsed:   0 min. Estimated time remaining: calculating...)
Status:  20% (Time elapsed:   0 min. Estimated time remaining: calculating...)
Status:  30% (Time elapsed:   0 min. Estimated time remaining:      15 min.)
Status:  55% (Time elapsed:   5 min. Estimated time remaining:      10 min.)
Status:  70% (Time elapsed:   7 min. Estimated time remaining:       8 min.)
Status:  90% (Time elapsed:  12 min. Estimated time remaining:       1 min.)
Status:  Completed
```

*: If the OS version is 4.2.0-XX or earlier, elapsed time and remaining time are not displayed.

Figure 4.2-6 Installation Progress window

NOTE: The installation normally takes about 15 minutes after the progress is displayed.

(5) When the installation is terminated normally, the Installation Termination Window is displayed as in Figure 4.2-7. Remove the installation media according to the message, and then press [Enter] key.
Reboot is executed.

```
KAQG61001-I Eject the installation media, and then press the [Enter] key.
KAQG61002-I The OS will now be restarted.
```

Figure 4.2-7 Installation Termination window

During the OS startup process, the LILO Boot Menu window in Figure 4.2-8 may be displayed on the console window, and the OS startup process may be cancelled.
If this happens, press [Enter] key to resume the OS startup process.
If the OS does not start even if the [Enter] key is pressed, press the [Ctrl] + [Alt] + [Delete] keys to restart the node. If the remote console is used, press the [L] key while pressing the [Alt] key to restart the node.

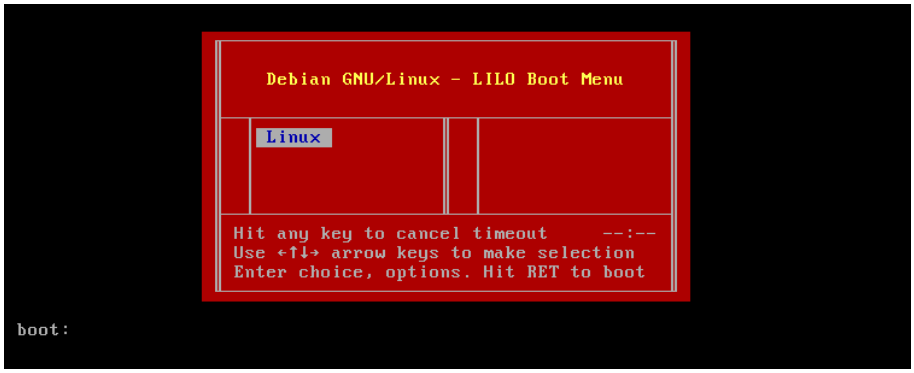

Figure 4.2-8 LILO Boot Menu window

NOTE: A remote console has the restriction on the operation of the [Alt] key. If using the [Alt] key is indicated, take the following precautions.
- In the case of D51B-2U, refer to "QuantaGrid Series D51B-2U Technical Guide" to perform the key operations including the [Alt] key.

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(6) After completing the rebooting, check that the login prompt is displayed in the console.
If the login prompt is displayed, the installation is completed.

NOTE:
- Normally, in approximately 6 minutes after step (5) is executed, the login prompt is displayed in the console window.
- If the login prompt is not displayed in the console window even after 30 minutes passed after step (5) is executed, collect the OS log by following the procedures below, and send it to the Technical Support Center.
  1. Turn off the power to the node by refer to "Installation '2.1.2.3 Terminating the OS forcibly by using the power button' (INST 02-0090)".
  2. Start the node in the maintenance mode by refer to Set Up "6.3 Maintenance Mode" (SETUP 06-0050).
  3. Acquire the log file by refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".

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4.3 Installing to other node

(1) When installation is required for a pair of nodes forming clusters in the cluster configuration.

(a) Service confirmation
Check whether the paired node status is “UP” or not with reference to “Maintenance Tool ‘2.2 Displaying the Cluster Status (clstatus)’ (MNTT 02-0040)”.

(b) When the node status is “UP”

NOTE: When requesting the system administrator for failback, failover and starting or stopping the cluster of a node, check the cluster status of the node in “Maintenance Tool ‘2.2 Displaying the Cluster Status (clstatus)’ (MNTT 02-0040)” before the request**.**
After completing the operation by the system administrator, check the cluster status of the node with “Maintenance Tool ‘2.2 Displaying the Cluster Status (clstatus)’ (MNTT 02-0040)” and execute the installation process.
When the system administrator is absent, the maintenance personnel should contact to system administrator and get the permission from him/her to execute the above operation. For the execution procedure, refer to “Maintenance Tool ‘3.1 Failover and Node Termination to Execute the OS stop or the OS reboot’ (MNTT 03-0000)”, and “Maintenance Tool ‘3.2 Failback and Start of Node After Starting the OS’ (MNTT 03-0030)”.

(i) Request the system administrator to start the node where executed installation, and to perform failback the resource group, which has been performed failover, to the node of executed installation.
For the reference place in User’s Guide describing the details about stopping a node, refer to “General ‘Reference Place in User's Guide for Operating Procedures Table 4 ‘Stopping and starting a node’’ (GENE 00-0040)”, for the reference place in User’s Guide describing the details about failover/failback of the resource group, refer to “General ‘Reference Place in User's Guide for Operating Procedures Table 4 ‘Changing the execution node of a resource group’’ (GENE 00-0040)”.
When the system administrator is absent, the maintenance personnel should contact to system administrator and get the permission from him/her to execute the above operation. For the execution procedure, refer to “Maintenance Tool ‘3.2 Failback and Start of Node After Starting the OS’ (MNTT 03-0030)”.

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(ii) Request the system administrator to perform failover the resource group of the node to be installed to the other node, and to set the “Node Status” to “INACTIVE”.
For the reference place in User’s Guide describing the details about stopping a node, refer to “General ‘Reference Place in User's Guide for Operating Procedures Table 4 ‘Stopping and starting a node’’ (GENE 00-0040)”, for the reference place in User’s Guide describing the details about failover/failback of the resource group, refer to “General ‘Reference Place in User's Guide for Operating Procedures Table 4 ‘Changing the execution node of a resource group’’ (GENE 00-0040)”.
After the status of the node to be installed becomes “INACTIVE”, execute the procedure in Set Up “Chapter 4 Update Installation” (SETUP 04-0000).
When the system administrator is absent, the maintenance personnel should contact to system administrator and get the permission from him/her to execute the above operation. For the execution procedure, refer to “Maintenance Tool ‘3.1 Failover and Node Termination to Execute the OS stop or the OS reboot’ (MNTT 03-0000)”.

(c) When the node status is INACTIVE
Execute Set Up “Chapter 4 Update Installation” (SETUP 04-0000).

(2) When installation is not necessary to a pair of nodes forming clusters, when installation to a pair of nodes is completed, or when it is in the single node configuration.
Execute Set Up “5.2 Setting/Confirmation after Update Installation” (SETUP 05-0080), and execute the operation of after installation.

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Chapter 5 Setting/Confirmation after Installation

5.1 Setting/Confirmation after New Installation

The required items to be executed after completing the new installation are shown below.
When the node is in the cluster configuration, refer to 5.1.1 Setting and confirming the cluster configuration.
When the node is in the single node configuration, refer to Set Up "5.1.2 Setting and confirming the single node configuration" (SETUP 05-0071).

5.1.1 Setting and confirming the cluster configuration

NOTE:
- The confirmation after the installation is performed by connecting the maintenance PC. Refer to "A.2.3.1 In the case of cluster configuration (2) Connecting the private maintenance ports", and connect the maintenance PC to "pm0."
- Before performing this procedure, check the segment of maintenance PC. A segment which is different from maintenance port may have been set. About segment of maintenance PC, refer to "Maintenance Tool '1.2.3 Setting the IP addresses of the maintenance PC' (MNTT 01-0041)".

(1) Log in the node for which the installation is executed via "ssh" from the maintenance PC.
For login procedures, refer to "Maintenance Tool '1.3.2 Logging in to a node for executing commands' (MNTT 01-0200)".

(2) When you login to the node, Select Mode window shown in Figure 5.1.1-1 or Figure 5.1.1-2 is displayed.

(a) When you set the IP address of the management port and BMC port,
Enter "1" in response to the KAQM05163-I message, and then press [Enter] key and proceed to step (3).

(b) When you do not set the IP address of the management port and BMC port,
Enter "9" in response to the KAQM05163-I message, and then press [Enter] key and proceed to step (5). Be sure to set the IP address of the management port and BMC port before starting operations.
If you have not set the IP address of the management port and BMC port, Figure 5.1.1-1 Select mode window is displayed again when you log in the node next time.

NOTE: If you enter a number other than "1" or "9" in response to the KAQM05163-I message, the KAQM05163-I message is displayed again.
Enter either "1" or "9", and then press [Enter] key.

```
[Select mode]
1. Set management port and BMC
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1
```

Figure 5.1.1-1 Select Mode window 1

```
[Select mode]
1. Set management port and BMC
2. View management port and BMC
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1/2/9): 1
```

Figure 5.1.1-2 Select Mode window 2

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(3) Figure 5.1.1-3 Management port IP Address Input Window is displayed.
If the installed OS version is earlier than 3.1.0-XX, proceed to (3-1). If the installed OS version is 3.1.0-XX or later, proceed to (3-2). If the installed OS version is 3.2.2-XX or later, proceed to (3-3).

NOTE:
- When entering the IPv4 address or the subnet mask, if you enter a character other than a numerical value or the period (.), if you enter more than 15 characters, or if you press [Enter] key before entering characters is completed, the KAQM05164-E message is displayed and the same input items are displayed again.
- When entering the default gateway of the IPv4 address, if you enter a character other than a numerical value or the period (.), or if you enter more than 15 characters and you press [Enter] key, the KAQM05164-E message is displayed and the same input items are displayed again.
  If you do not set the default gateway, do not enter anything in [Default gateway IP address (to skip, press [Enter]):], (the installed OS version is earlier than 3.1.0-XX) or in [Default gateway IPv4 address (to skip, press [Enter]):] (the installed OS version is 3.1.0-XX or later), and press [Enter] key.
- To set an IP address of BMC port in the cluster configuration (the BMC and Management SW connection configuration), set the IPv4 address of the network segment that is the same one of management port.
  If an IP address of which the network segment is different from the management port is set to BMC port, an error occurs.
  In the BMC direct connection configuration, an IP address of which the network segment is different from the management port can be set to BMC port.
- When entering the IPv6 address in the management port, if you press [Enter] key while entering more than 39 characters, the KAQM05164-E message is displayed and the same input items are displayed again. If you do not set the IPv6 address, do not enter anything in [Management IPv6 address (to skip, press [Enter]) :], and press [Enter] key.
- When entering the prefix length in the IPv6 address setting, if you press [Enter] key while entering a character other than a numerical value or entering other than 0 to 128, the KAQM05164-E message is displayed and the same input items are displayed again.
- When entering the default gateway of the IPv6 address, if you press [Enter] key while entering a character other than a numerical value or the colon (:) or entering more than 39 characters, the KAQM05164-E message is displayed and the same input items are displayed again.
  If you do not set the default gateway, do not enter anything in [Default gateway IPv6 address (to skip, press [Enter]) :], and press [Enter] key.

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(3-1) When the installed OS version is earlier than 3.1.0-XX
[Management IP address:] is displayed. Enter a Management port IPv4 address specified by the client, and then press [Enter] key.
Also for [Netmask:], [Default gateway IP address (hit only [Enter] to skip):] and [BMC IP address :], enter a subnet mask, default gateway and BMC port IPv4 address specified by the client, and then press [Enter] key.
For [Default gateway IP address (hit only [Enter] to skip):], it is possible to press [Enter] key without entering anything. If you do not set the default gateway, press [Enter] key without entering anything.

If there is no specified Management port IP address, set the following IPv4 address/subnet mask.
As the default gateway is not set, press [Enter] key without entering anything.

node0 : 192.168.0.20 / 255.255.255.0
node1 : 192.168.0.21 / 255.255.255.0

If there is also no specified BMC port IPv4 address, set the following IP address.

node0 : 192.168.0.22
node1 : 192.168.0.23

When you executed the new installation for recovery from a failure, check the Management port IP address with the system administrator, and set its value.

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IP address  192.168.0.20
Netmask  255.255.255.0
Default gateway IP address (to skip, press [Enter]) :
BMC IP address : 192.168.0.22
```

Figure 5.1.1-3 Management port IP Address Input window

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(3-2) When the installed OS version is 3.1.0-XX or later
[Management IPv4 address:] is displayed. Enter a Management port IPv4 address specified by the client, and then press [Enter] key.
Also for [Netmask:], [Default gateway IPv4 address (to skip, press [Enter]):] and [BMC IPv4 address :], enter a subnet mask, default gateway, and BMC port IPv4 address specified by the client, and then press [Enter] key.
For [Default gateway IPv4 address (to skip, press [Enter]):], it is possible to press [Enter] key without entering anything. If you do not set the default gateway, press [Enter] key without entering anything.

If there is no specified Management port IP address, set the following IPv4 address/subnet mask.
As the default gateway is not set, press [Enter] key without entering anything.

node0 : 192.168.0.20 / 255.255.255.0
node1 : 192.168.0.21 / 255.255.255.0

If there is also no specified BMC port IPv4 address, set the following IP address.

node0 : 192.168.0.22
node1 : 192.168.0.23

When you executed the new installation for recovery from a failure, check the IP addresses of Management port and BMC port with the system administrator, and set the values.

After setting Management port and BMC port IPv4 address, [Management IPv6 address:] is displayed. If there is a Management port IPv6 address specified by the client, enter it and press [Enter] key.
Also for [Prefix length:] and [Default gateway IPv6 address (to skip, press [Enter]):], enter a prefix length and default gateway IPv6 address specified by the client and press [Enter] key.

If there is no specified IPv6 address, press [Enter] key without entering anything in [Management IPv6 address:] to omit entering IPv6 address.

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
BMC IPv4 address : 192.168.0.22
Management IPv6 address :
```

Figure 5.1.1-4 Management Port IP Address Input window

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(3-3) When the installed OS version is 3.2.2-XX or later
[Management IPv4 address:] is displayed. Enter a Management port IPv4 address specified by the client, and then press [Enter] key.
Also for [Netmask:], [Default gateway IPv4 address (to skip, press [Enter]):] and [BMC IPv4 address :], enter subnet mask, default gateway, and BMC port IPv4 address specified by the client, and then press [Enter] key.
For [Default gateway IPv4 address (to skip, press [Enter]):], it is possible to press [Enter] key without entering anything. If you do not set the default gateway, press [Enter] key without entering anything.

If no Management port IP address is specified, set the following IPv4 address/subnet mask.
As the default gateway is not set, press [Enter] key without entering anything.

node0 : 192.168.0.20 / 255.255.255.0
node1 : 192.168.0.21 / 255.255.255.0

If also no BMC port IPv4 address is specified by the client, set the IP address in Table 5.1.1-1.

Table 5.1.1-1 IP Address to be set to BMC Port when it is not specified

Node.	In the BMC and Management SW connection configuration	In the BMC direct connection configuration
node 0	192.168.0.22	10.0.2.22
node 1	192.168.0.23	10.0.2.23

After setting an IP address and press [Enter] key, a message to confirm whether it is the BMC and Management SW connection configuration or the BMC direct connection configuration is output. KAQM05226-Q message shown in Figure 5.1.1-5 is output in the case of the BMC and Management SW connection configuration, and the KAQM05227-Q message shown in Figure 5.1.1-6 is output in the case of the BMC direct connection configuration.

After confirming that the actual configuration and output messages correspond, enter “y” and press [Enter] key for the output message. If the actual configuration and output messages do not correspond, enter “n” and press [Enter] key, and then execute from step (2) again.

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```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
BMC IPv4 address :  192.168.0.22
KAQM05226-Q The network configuration will be changed to connect the BMC port to the IP
switch and give the management and BMC port unique network addresses. Are you sure you want to
continue? (y/n) (*1)
```

*1: If the OS version is 4.1.1-XX or earlier, the KAQM05226-Q message "The network configuration will be changed so that the BMC port is connected to the IP switch because the management port and the BMC port have the same network address. Are you sure you want to continue? (y/n)" is displayed.

Figure 5.1.1-5 Message to be Output in the BMC and Management SW connection configuration

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
BMC IPv4 address :  192.168.0.22
KAQM05227-Q The network configuration will be changed so that the BMC port is connected to
pm1 because the management port and the BMC port have different network addresses. Are you sure
you want to continue? (y/n)
```

Figure 5.1.1-6 Message to be Output in the BMC direct connection configuration

When you executed a new installation for recovery from a failure, confirm the IP addresses of Management port and BMC port with the system administrator, and set the values.

After setting Management port and BMC port IPv4 address, [Management IPv6 address:] is displayed. If there is a Management port IPv6 address specified by the client, enter it and press [Enter] key.
Also for [Prefix length:] and [Default gateway IPv6 address (to skip, press [Enter]):], enter a prefix length and default gateway IPv6 address specified by the client and press [Enter] key.

If no IPv6 address is specified, press [Enter] key without entering anything in [Management IPv6 address:] to omit entering IPv6 address.

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
BMC IPv4 address : 192.168.0.22
KAQM05226-Q The network configuration will be changed so that the BMC  port is
connected to the IP switch because the management port and the BMC port have the same
network address. Are you sure you want to continue? (y/n) y
Management IPv6 address :
```

Figure 5.1.1-7 Management Port IP Address and BMC Port IP Address Input window

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(4) If you executed (3-1) in step (3), proceed to (4-1). If you executed (3-2), proceed to (4-2). If you executed (3-3), proceed to (4-3).

(4-1) Figure 5.1.1-8 Setting Confirmation Window is displayed.
After checking that there is no error in the information input in step (3-1), enter "y" in response to the KAQM05165-Q message, and then press [Enter] key.
When the KAQM05166-I message is output, the Management port settings are completed.
After setting the Management port IP address, check whether the settings are correct by refer to "Maintenance Tool '2.11 Displaying the Management Port Information (mngiflist)' (MNTT 02-0800)" and "Maintenance Tool '2.15 Displaying the Management Port Routing Information (mngroutelist)' (MNTT 02-0960)".

If there is any error in the input information, enter "n" and press [Enter] key, and then execute from step (2) again.

If the Management port settings failed, a message indicating the cause of the failure is output as shown in Figure 5.1.1-9. Take countermeasures by referring to Table 5.1.1-1.
After completion of the countermeasures, execute from step (2) again.

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IP address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IP address (to skip, press [Enter]) :

KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05166-I The IP addresses of the management port and the BMC port were set.
~$
```

Figure 5.1.1-8 Setting Confirmation window

```
KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05019-E The specified gateway is not in the network.

Address Information
 Interface          :  mng0
 Fixed IP addr      :  192.168.0.20
 Netmask            :  255.255.255.0
Routing Information
 no settings
BMC Information
no settings

[Select mode]
1. Set management port
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1 or 9):
```

Figure 5.1.1-9 Window when the Settings Failed

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NOTE: Step (2) through step (4) is to be applied only to the first login after the new installation.
When you change the Management port IP address, refer to "Maintenance Tool '2.12 Setting the Management Port Information (ownmngifedit)' (MNTT 02-0840)".
When you change the BMC port IP address, refer to "Maintenance Tool '2.18 Setting BMC LAN Information (bmcctl)' (MNTT 02-1210)".

(4-2) Figure 5.1.1-10 Setting Confirmation Window is displayed.
After checking that there is no error in the information input in step (3-2), enter "y" in response to the KAQM05165-Q message, and then press [Enter] key.
When the KAQM05166-I message is output, the Management port settings are completed.
After setting the Management port IP address, check whether the settings are correct by refer to "Maintenance Tool '2.11 Displaying the Management Port Information (mngiflist)' (MNTT 02-0800)" and "Maintenance Tool '2.15 Displaying the Management Port Routing Information (mngroutelist)' (MNTT 02-0960)".

If there is any error in the input information, enter "n" and press [Enter] key, and then execute from step (2) again.

If the Management port settings failed, a message indicating the cause of the failure is output as shown in Figure 5.1.1-11. Take countermeasures by referring to Table 5.1.1-1.
After completion of the countermeasures, execute from step (2) again.

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```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
BMC IPv4 address  :  192.168.0.22
Management IPv6 address :

KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05166-I The IP addresses of the management port and the BMC port were set.
~$
```

Figure 5.1.1-10 Setting Confirmation window

```
KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05019-E The specified gateway is not in the network.

Address Information
 Interface              :  mng0
IPv4
 Fixed IP addr          :  192.168.0.20
 Netmask                :  255.255.255.0
Routing Information
 no settings
BMC Information
no settings

[Select mode]
1. Set management port
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1 or 9):
```

Figure 5.1.1-11 Window when the Settings Failed

NOTE: Step (2) through step (4) is to be applied only to the first login after the new installation.
When you change the Management port IP address, refer to "Maintenance Tool '2.12 Setting the Management Port Information (ownmngifedit)' (MNTT 02-0840)".
When you change the BMC port IP address, refer to "Maintenance Tool '2.18 Setting BMC LAN Information (bmcctl)' (MNTT 02-1210)".

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(4-3) Figure 5.1.1-12 Setting Confirmation Window is displayed.
After checking that there is no error in the information input in step (3-3), enter “y” in response to the KAQM05165-Q message, and then press [Enter] key.
When the KAQM05166-I message is output, the Management port settings are completed.
If the window shown in Figure 5.1.1-1or Figure 5.1.1-2 is displayed, enter “9” and press [Enter] key.

After setting the Management port IP address, check whether the settings are correct by referring to “Maintenance Tool ‘2.11 Displaying the Management Port Information (mngiflist)’ (MNTT 02-0800)” and “Maintenance Tool ‘2.15 Displaying the Management Port Routing Information (mngroutelist)’ (MNTT 02-0960)”.

If there is any error in the input information, enter “n” and press [Enter] key, and then execute from step (2) again.

If the Management port settings failed, a message indicating the cause of the failure is output as shown in Figure 5.1.1-13. Take countermeasures by referring to Table 5.1.1-1.
After completing the countermeasures, execute from step (2) again.

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```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
BMC IPv4 address  :  192.168.0.22
KAQM05226-Q The network configuration will be changed so that the BMC port is
connected to the IP switch because the management port and the BMC port have the same
network address. Are you sure you want to continue? (y/n) y

Management IPv6 address :

KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05166-I The IP addresses of the management port and the BMC port were set.
~$
```

Figure 5.1.1-12 Setting Confirmation window

```
KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05019-E The specified gateway is not in the network.

Address Information
 Interface              :  mng0
IPv4
 Fixed IP addr          :  192.168.0.20
 Netmask                :  255.255.255.0
Routing Information
 no settings
BMC Information
 no settings

[Select mode]
1. Set management port
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1 or 9):
```

Figure 5.1.1-13 Window when the Settings Failed

NOTE: Step (2) through step (4) are to be applied only to the first login after the new installation.
When you change the Management port IP address, refer to "Maintenance Tool '2.12 Setting the Management Port Information (ownmngifedit)' (MNTT 02-0840)".
When you change the BMC port IP address, refer to "Maintenance Tool '2.18 Setting BMC LAN Information (bmcctl)' (MNTT 02-1210)".

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Table 5.1.1-1 Message IDs and Countermeasures (1/2)

No.	Message ID	Message	Description	Countermeasure
1	KAQM05010-E	An internal error occurred.	An internal error occurred.	Check whether a failure has not occurred in the network. If the same error occurred by executing it again, collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
2	KAQM05019-E	The specified gateway is not in the network.	The specified gateway does not exist in the network.	Specify a gateway within the same network.
3	KAQM05020-E	An attempt to set routing information failed.	Setting the routing information has failed.	Check whether a failure has not occurred in the network. If the same error occurred by executing it again, collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
4	KAQM05028-E	The specified routing entry already exists.	The specified routing setting exists already.	For the measurement method, refer to "Maintenance Tool '2.16.3 Command termination messages and action to be taken' (MNTT 02-1050)".
5	KAQM05051-E	An attempt to restart the network has failed.	Network reboot has failed.	Check whether a failure has not occurred in the network. If the same error occurred by executing it again, collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
6	KAQM05055-E	An attempt to read the file to be used for the requested processing has failed.	Reading the file to be used for the requested processing has failed.	Check whether a failure has not occurred in the network. If the same error occurred by executing it again, collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
7	KAQM05056-E	An attempt to write to the file to be used for the requested processing has failed.	Writing the file to be used for the requested processing has failed.	

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Table 5.1.1-1 Message IDs and Countermeasures (2/2)

No.	Message ID	Message	Description	Countermeasure
8	KAQM05163-I	Select a mode, and then press [Enter]. (1 or 9):	This message is output in the first login with the service account.	Enter “1” or “9”.
		Select a mode, and then press [Enter]. (1/2/9):	This message is output when the cluster is not created while being logged in with the service account.	
9	KAQM05164-E	The format of the specified IP address is invalid.	The specified value is not correct.	Check the specified value and specify enabled data.
10	KAQM05165-Q	Do you want to set the management port and the BMC port? (y/n)	Do you want to execute the management port and the BMC port settings?	Enter “y” to execute the settings, or enter “n” to cancel the settings.
11	KAQM05166-I	The IP addresses of the management port and the BMC port were set.	The management port and the BMC port settings have been completed.	—
12	KAQM05167-I	The next time you log in, the mode selection menu will be displayed.	In the next login, the [Select mode] window is displayed again.	—
13	KAQM05172-E (*1)	The network address of the specified BMC port is different from the management port network address.	The specified network segment of the BMC IP address differs from the network segment of the management port.	Set the same network segment with that of management port to the BMC IP address.
14	KAQM05194-E	The entered prefix length is invalid.	There is an error exists in the entered prefix length.	Specify a number in the range from 0 to 128 and retry.

*1: This is not output if the OS version is 3.2.2-XX or later. For the confirmation of the OS version, refer to “Maintenance Tool ‘2.34 Displaying the Version of the OS (versionlist)’ (MNTT 02-2060)”.

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(5) After completing the installation, check the version of the OS.
Refer to "Maintenance Tool '2.34 Displaying the Version of the OS (versionlist)' (MNTT 02-2060)", and check whether the version of the OS is the installed version or not.
If the version is different from the one to be installed, execute the installation procedures again beginning with Set Up "3.2 The node Status Confirmation before Installation" (SETUP 03-0010).
If the version is the same as the one to be installed, proceed to step (5-1).
In the case the target model is "Dell™ PowerEdge™ R710", proceed to step (6).

(5-1) Check the version of the hardware maintenance agent.
Refer to "Maintenance Tool '2.59 Check the Version Information of Hardware Maintenance Agent (miacatget)' (MNTT 02-3200)", and record the version of the hardware maintenance agent.
To check the version, refer to the version management table (Web).
If the version of the hardware maintenance agent needs to be updated, refer to "Maintenance Tool '2.60 Updating the Hardware Maintenance Agent (miacatupdate)' (MNTT 02-3230)" and update it

(5-2) Set the model code and the product code of the hardware maintenance agent.
Refer to "Maintenance Tool '2.62 MIACAT Setup Wizard (ast_setup)' (MNTT 02-3340)" and set the model code and the product code of the hardware maintenance agent.

(6) Check the version of the HBA firmware.
Refer to "Maintenance Tool '2.24 Checking the HBA Firmware Version (fchbafwlist)' (MNTT 02-1600)", and check the version of the HBA firmware.
To check the version, refer to the version management table (Web).
If the version of the HBA firmware needs to be updated, refer to "Maintenance Tool '2.25 Updating the HBA Firmware (fchbafwupdate)' (MNTT 02-1630)", and update the firmware.
If the version of the HBA firmware is appropriate, proceed to step (7).

(7) Check the firmware version of the RAID controller.
Refer to "Maintenance Tool '2.46 Confirming the Built-in RAID Controller Firmware Version (internalraidfwget)' (MNTT 02-2610)", and check the firmware version of the RAID controller.
To check the version, refer to the version management table (Web).
If the firmware version of the RAID controller needs to be updated, refer to "Maintenance Tool '2.47 Updating the Built-in RAID Controller Firmware (internalraidfwupdate)' (MNTT 02-2640)", and update the firmware.
If the firmware version of the RAID controller is appropriate, proceed to step (8).

(8) Check the hardware status of the installed node.
Refer to "B.3.1 Displaying the Hardware Status (hwstatus)", and check the hardware status.
Confirm that [BMC Information] [status] is displayed as [ok], [connection] is displayed as [none], [InternalRAIDBattery Information] is displayed as [-], [mng0] and [pm0] are displayed as [up] in [Network Interface]. Also confirm that [pm1] is displayed as [up] in the BMC direct connection configuration.
If otherwise displayed in [BMC Information], [InternalRAIDBattery Information] and [Network Interface], or if a failure has occurred at the place other than above, please remove the cause of failure according to "C.2.2.1 Failure determination procedure at the cluster configuration"

However, if the management LAN IP-SW is prepared by the customer and [mng0] of [Network Interface] is not displayed as [up], request confirmation of connection with the management LAN IP-SW. If no problem is found, refer to "C.2.2.1 Failure determination procedure at the cluster configuration" and execute troubleshooting.

If there is any abnormality in the result of the confirmation, identify the failure part and replace it by referring to the maintenance manual of the target model (HA8000 series / CR2x0 series) or "QuantaGrid Series D51B-2U Technical Guide". For the details of parts replacement, refer to "Replacement 'Chapter 1 Replacing the Components of Hitachi Data Ingestor' (REP 01-0000)".

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(8-1) Check the network communication between two nodes.
Execute nasping command on each node to check if the node can communicate with the management port and the BMC port of another node. As for the management port IP address, perform communication confirmation also about IPv6 address if it is set.

(a) Execute nasping command on the node0 toward to the IP address of management port of node1.
For details about the nasping command, refer to "Maintenance Tool '2.7 Checking Network Connection Status (nasping)' (MNTT 02-0410)".

(b) Execute nasping command on the node0 toward to the IP address of BMC port of node1.
For details about the nasping command, refer to "Maintenance Tool '2.7 Checking Network Connection Status (nasping)' (MNTT 02-0410)". In the BMC direct connection configuration, execute the nasping command in the following format:
"nasping -I <reset port IP address of node0> <BMC port IP address of node1>"

(c) Execute nasping command on the node1 toward to the IP address of management port of node0.
For details about the nasping command, refer to "Maintenance Tool '2.7 Checking Network Connection Status (nasping)' (MNTT 02-0410)".

(d) Execute nasping command on the node1 toward to the IP address of BMC port of node0.
For details about the nasping command, refer to "Maintenance Tool '2.7 Checking Network Connection Status (nasping)' (MNTT 02-0410)". In the BMC direct connection configuration, execute the nasping command in the following format:
"nasping -I <reset port IP address of node1> <BMC port IP address of node0>"

(e) If all of the communication from step(a) to step(d) are succeeded, proceed to step(9).
If some of the communication from step(a) to step(d) are failed, review the command parameter of IP address and execute the command again .
If the communication is failed again, proceed to step(f).

(f) Check the cable connection of the communication failed port of the node, and check the setting parameter of the communication failed port. However, in the case the destination is the management LAN IP-SW prepared by the customer, request the system administrator to confirm cable connection.

[The case that the communication to management port is failed]
After checking the cable connection between the communication failed port of the node and the management IP-SW, check if the IP address and subnet mask parameter is not different from customer configuration information.
For details about the mngiflist command, refer to "Maintenance Tool '2.11 Displaying the Management Port Information (mngiflist)' (MNTT 02-0800)".
If there are some difference, execute "ownmngifedit" command to set the correct IP address and subnet mask.
For details about the ownmngifedit command, refer to "Maintenance Tool '2.12 Setting the Management Port Information (ownmngifedit)' (MNTT 02-0840)".

And, check the routing information of management port in the routing table.
Check if the routing information is not different from customer configuration information.
For details about the mngroutelist command, refer to "Maintenance Tool '2.15 Displaying the Management Port Routing Information (mngroutelist)' (MNTT 02-0960)".
If there is some difference, execute "mngrouteadd" command to set the correct routing information.
For details about the mngrouteadd command, refer to "Maintenance Tool '2.16 Adding the Management Port Routing Information (mngrouteadd)' (MNTT 02-1000)".

[The case that the communication to BMC port is failed]
After checking the link-up of the BMC port, execute "bmcctl" command to check if the IP address and subnet mask parameter is not different from customer configuration information.
For details about the bmcctl command, refer to "Maintenance Tool '2.18 Setting BMC LAN Information (bmcctl)' (MNTT 02-1210)".
If there are some difference, execute "bmcctl" command to set the correct IP address and subnet mask.
For details about the bmcctl command, refer to "Maintenance Tool '2.18 Setting BMC LAN Information (bmcctl)' (MNTT 02-1210)".

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(9) Check that LU is recognized.
If the disk array subsystem is not connected, refer to "Disk Setting 'Chapter 2 Disk Setting for AMS2000 Series, MSS, and HUS100 Series' (DSKST 02-0000)" for AMS 2000 series, MSS, and HUS100 series. "Disk Setting 'Chapter 3 Disk Setting for USP V, USP VM, VSP, VSP G1000, VSP Gx00/VSP Fx00, and HUS VM' (DSKST 03-0000)" for the USP V, USP VM, VSP, VSP G1000, VSP Gx00/VSP Fx00, and HUS VM and then connect the disk array subsystem.

(a) Refer to "Maintenance Tool '2.35 Displaying the LU Information in the Disk Array Subsystem (alulist)' (MNTT 02-2090)", and check whether the LU set in the disk array subsystem can be recognized from both nodes or not.

(b) When the disk array subsystem is connected after installing the OS, the LU information may not be recognized.
In that case, refer to "Maintenance Tool '2.5 Displaying the FC Status (fpstatus)' (MNTT 02-0280)" and execute recognition of the LU again with fpstatus command.
After executing the fpstatus command, execute step (a) again and check whether the LU set in the disk array subsystem can be recognized by the both nodes or not.

If the LU cannot be recognized, check the FC cable connection, FC switch setting, and disk array subsystem setting.

NOTE: When the "Status" of one side is shown as "Online" but of the other side is not "Online," and if you check the cable connection of the path that is not displayed as "Online," provide a different cable without removing the cable of the path line that is displayed as "Online" when reviewing. If the cable of the path line displayed as "Online" is removed, the OS may reboot.

(10) Check the FC path status of both nodes.
Refer to "Maintenance Tool '2.5 Displaying the FC Status (fpstatus)' (MNTT 02-0280)", and check that the port name of the disk array subsystem connected to the node and [ArrayPort] are matched and "Status" of the FC path is all "Online".

If the port name of the disk array subsystem connected to the node and [ArrayPort] are not matched, check the FC cable connection, FC switch setting and disk array subsystem setting.
If other than "Online" is displayed in "Status" of the FC path, refer to "Maintenance Tool '2.5 Displaying the FC Status (fpstatus)' (MNTT 02-0280)", and perform the countermeasure.

```
$ sudo fpstatus
Path              Target     HostPort   HostPortWWN      ArrayPort  ArrayPortWWN     Status
path000-0000-0A   N0-T000    fc0004     5000087000302100 0A         50060e800044b632 Online
path001-0002-1B   N0-T001    fc0005     5000087000302102 1B         50060e800044b634 Online
```

Figure 5.1.1-14 FC Path Status Confirmation

(11) In the case that the front bezel is used and has been removed, install the front bezel. For how to install a front bezel, refer to "A.2.1 Front side".

NOTE: The following procedures are not necessary when the corrective recovery of OS Disk/cluster management LU is executed or when the individual recovery of OS Disk is executed.

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When the procedures are completed up to step (11), the cluster configuration operations by using Hitachi File Services Manager can be performed.
Inform the system administrator or the customer SE that the cluster configuration can be executed, and request the cluster configuration operation.
The cluster configuration operation includes the following operations.

- Setting license
- Connecting Data port cables
- cluster definition operation
- Starting cluster services, etc.

For the reference place in User's Guide, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Creating a cluster'' (GENE 00-0050)".
When the system administrator or the customer SE has been informed that the cluster configuration can be executed, the installation operation is completed.

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5.1.2 Setting and confirming the single node configuration

NOTE:
- The confirmation after the installation is performed by connecting the maintenance PC. Refer to "A.2.3.2 'In the case of single node configuration (2) Connecting the private maintenance ports", and connect the maintenance PC.
- At the time of recovery failures in the configuration using trunk 2 Data ports, set the IP address of the data port and the routing information to the private maintenance port and recover the user data by connecting to the unused port of IP-SW where configured by the user with a LAN cable.
  Confirm the IP address of the data port and the routing information with the system administrator beforehand.
  For the procedure of recovering a failure in the configuration using trunk 2 Data ports, refer to Set Up "5.1.2 (b) At the time of failure recovery" (SETUP 05-0073).
- If the node of HDI is Configuration using Management port and the installed OS version is 4.1.1-XX or later, the processing to set the DHCP client for the Management port has already been performed. Since this setting needs to be disabled in case of not using DHCP, confirm with the system administrator whether DHCP is used for the Management port.
- In the configuration the node is connected to the disk array subsystem, and yet the node was not connected to the disk array subsystem at the time of a new installation, refer to the following notes.
  - ✓ If you start the node while it is connected to the disk array subsystem after a new installation, there is a risk that the user LU which was recognized by the OS first might be formatted. Therefore, connect the disk array subsystem while the OS is running and reboot the node after confirming that the proper LU can be seen. For confirming the status of a proper LU, refer to "Maintenance Tool '2.5 Displaying the FC Status (fpstatus) (2) (*l*)' (MNTT 02-0333)", for rebooting the OS, refer to "Maintenance Tool '2.29 Rebooting the OS of This Side Node (nasreboot)' (MNTT 02-1790.)"
  - ✓ Ignore the SIM message "KAQK39603-E An attempt to connect user disk failed. (Detail=00 00 02 02 Level=00 Type=04)" which to be output to notify the failure of the user disk initialization process.

(1) Log in the node for which the installation is executed via "ssh" from the maintenance PC.
For login procedures, refer to "Maintenance Tool '1.3.2 Logging in to a node for executing commands' (MNTT 01-0200)".
If the OS version installed in the node of HDI is 4.1.1-XX or earlier, go to step (2).
In the case that the OS version is 4.1.1-XX or later and DHCP is used for Management port, go to step (6).
In the case that the OS version is 4.1.1-XX or later and DHCP is not used, go to step (5).

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(2) When you log in the node, Figure 5.1.2-1 Select Mode Select Window is displayed.

(a) When the IP addresses of Management port and BMC port are set
Enter “1” in response to the KAQM05163-I message, and then press [Enter] key and proceed to step (3).

(b) When the IP addresses of Management port and BMC port are not set
Enter “9” in response to the KAQM05163-I message, and then press [Enter] key and proceed to step (5).
Be sure to set the Management port IP address before starting operations.
If you have not set the Management port IP address, Figure 5.1.2-1 Mode Select Window is displayed again when you log in the node next time.

NOTE: If you enter a number other than “1” or “9” in response to the KAQM05163-I message, the KAQM05163-I message is displayed again.
Enter either “1” or “9”, and then press [Enter] key.

```
[Select mode]
1. Set management port and BMC
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1
```

Figure 5.1.2-1 Select Mode window

(3) The window to input the management port IP address or the DHCP setting execution confirmation window is displayed.
The items to be input are different between the initial installation and at the time of failure recovery. For the initial installation, refer to Set Up “5.1.2 (a) At the initial installation” (SETUP 05-0072A).
And for the failure recovery, refer to Set Up “5.1.2 (b) At the time of failure recovery” (SETUP 05-0073).

NOTE:
- When entering the IPv4 address or the subnet mask, if you enter a character other than a numerical value or the period (.), if you enter more than 15 characters, or if you press [Enter] key before entering characters is completed, the KAQM05164-E message is displayed and the same input items are displayed again.
- When entering the default gateway of the IPv4 address, if you enter a character other than a numerical value or the period (.), or if you enter more than 15 characters and then you press [Enter] key, the KAQM05164-E message is displayed and the same input items are displayed again.
  If you do not set the default gateway, do not enter anything in [Default gateway IP address (to skip, press [Enter]):] (the installed OS version is earlier than 3.1.0-XX) or in [Default gateway IPv4 address (to skip, press [Enter]):] (the installed OS version is 3.1.0-XX or later), and press [Enter] key.
- The IP address of the BMC port is set automatically with IPv4 address (host part is fixed as 40.) where the network segment of private maintenance port is the same.
- If you enter a character other than a numerical value or the colon (:) or enter more than 39 characters as an IPv6 address for the management port and the default gateway, the KAQM05164-E message is displayed.
  If you do not set an IPv6 address, press [Enter] key without entering anything.
- When entering the prefix length in the IPv6 address setting, if you press [Enter] key while entering a character other than a numerical value or entering other than 0 to 128, the KAQM05194-E message is displayed and the same input items are displayed again.

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(a) At the initial installation
Referent will be varied depending on the installed OS version as shown below.

- In case that the version is earlier than 3.1.0-XX, see (a-1).
- In case that the version is later than 3.1.0-XX as well as earlier than 4.1.1-XX, see (a-2).
- In case that the version is later than 4.1.1-XX, see (a-3).

When the procedures stated in the referent are completed, proceed to the step (4).

(a-1) When the installed OS version is earlier than 3.1.0-XX
[Management IP address:] is displayed. Enter a Management port IPv4 address specified by the client, and then press [Enter] key.
Note that the network segment of Management port should be different from that of data port, BMC port, and Private Maintenance port.
Also for [Netmask:] and [Default gateway IP address (to skip, press [Enter]):], enter a subnet mask, default gateway specified by the client, and then press [Enter] key.
For [Default gateway IP address (to skip, press [Enter]):], it is possible to press [Enter] key without entering anything. If you do not set the default gateway, press [Enter] key without entering anything.
If there is no specified Management port IP address from the customer, set the following IPv4 address/subnet mask.
As the default gateway is not set, press [Enter] key without entering anything.

Management port: 192.168.0.20 / 255.255.255.0

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IP address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IP address (to skip, press [Enter]):
```

Figure 5.1.2-2 Management port IP Address Input window

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(a-2) When the installed OS version is later than 3.1.0-XX as well as earlier than 4.1.1-XX.
[Management IPv4 address:] is displayed. Enter a Management port IPv4 address specified by the client, and then press [Enter] key.
Note that the network segment of Management port should be different from those of data port, BMC port, and Private Maintenance port.
Also for [Netmask:] and [Default gateway IPv4 address (to skip, press [Enter]):], enter a subnet mask, default gateway specified by the client, and then press [Enter] key.
For [Default gateway IPv4 address (to skip, press [Enter]):], it is possible to press [Enter] key without entering anything. If you do not set the default gateway, press [Enter] key without entering anything.
If there is no specified Management port IP address from the customer, set the following IPv4 address/subnet mask.
As the default gateway is not set, press [Enter] key without entering anything.

Management port: 192.168.0.20 / 255.255.255.0

After setting Management port IPv4 address, [Management IPv6 address:] is displayed. If there is a Management port IPv6 address specified by the client, enter it and press [Enter] key.
Also for [Prefix length:] and [Default gateway IPv6 address (to skip, press [Enter]):], enter a prefix length and default gateway IPv6 address specified by the client and press [Enter] key.

If there is no specified IPv6 address, press [Enter] key without entering anything in [Management IPv6 address:] to omit entering IPv6 address.

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IP address (to skip, press [Enter]) :
Management IPv6 address :
```

Figure 5.1.2-3 Management Port IP Address Input window

(a-3) In case of installing the OS version 4.1.1-XX or later
A message KAQM05282-Q is displayed.
Input “n” and press [Enter] key.

NOTE: In case of inputting “y” for the message KAQM05282-Q and press [Enter], disabling DHCP is required before setting address. In this case, proceed to the step (5).

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1
KAQM05282-Q Do you want to use DHCP? (y/n): n
```

Figure 5.1.2-4 Execution Confirmation Window of the DHCP Setting

(i) Execute the same procedure with the description in Set Up “5.1.2 (a) At the initial installation, (a-2) When the installed OS version is 3.1.0-XX or later as well as 4.1.1-XX or earlier” (SETUP 05-0072B).

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(b) At the time of failure recovery
Referent will be varied depending on the installed OS version as shown below.

- In case that the version is earlier than 3.1.0-XX, see (b-1).
- In case that the version is later than 3.1.0-XX as well as earlier than 4.1.1-XX, see (b-2).
- In case that the version is later than 4.1.1-XX, see (b-3).

When the procedures stated in the referent are completed, proceed to the step (4).

(b-1) When the installed OS version is earlier than 3.1.0-XX

(i) Case of Configuration using trunk 2 Data ports
[Management IP address:] is displayed. Enter an IPv4 address of the data port that is confirmed the system administrator in advance to the IPv4 address of the management port, and then press [Enter] Key.
Also for [Netmask:] and [Default gateway IP address (hit only [Enter] to skip):], enter a subnet mask and default gateway confirmed to the system administrator in advance, and then press [Enter] key.
For [Default gateway IP address (hit only [Enter] to skip):], it is possible to press [Enter] key without entering anything. If you do not set the default gateway, press [Enter] key without entering anything.

Refer to the following for the configuration using trunk 2 Data ports.

Refer to the "Installation '1.1.4 Overall configuration diagram (4) Figure 1.1.4-11 Configuration using trunk 2 Data ports' (INST 01-0078)".

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IP address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IP address (to skip, press [Enter]) :
```

Figure 5.1.2-4 Management port IP Address Input window

(ii) Case of Configuration using Management port
Execute the same procedure with the description in Set Up "5.1.2 (a) At the initial installation (a-1) When the installed OS version is earlier than 3.1.0-XX" (SETUP 05-0072A).

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(b-2) When the installed OS version is later than 3.1.0-XX or as well as earlier than 4.1.1-XX.

(i) Case of Configuration using trunk 2 Data ports
[Management IPv4 address :] is displayed. If the management port and a free port of IP-SW of front-end LAN are connected, enter an IPv4 address of the data port that is confirmed the system administrator in advance to the IPv4 address of the management port, and then press [Enter] Key. Also for [Netmask :] and [Default gateway IPv4 address (hit only [Enter] to skip) :], enter a subnet mask and default gateway confirmed to the system administrator in advance, and then press [Enter] key.

For [Default gateway IPv4 address (hit only [Enter] to skip) :], it is possible to press [Enter] key without entering anything. If you do not set the default gateway, press [Enter] key without entering anything.

After setting Management port IPv4 address, [Management IPv6 address :] is displayed. If there is a Management port IPv6 address specified by the client, enter it and press [Enter] key.
Also for [Prefix length :] and [Default gateway IPv6 address (to skip, press [Enter]) :], enter a prefix length and default gateway IPv6 address specified by the client, and press [Enter] key.

If there is no specified IPv6 address, press [Enter] key without entering anything in [Management IPv6 address :] to omit entering IPv6 address.

Refer to the following for the configuration using trunk 2 Data ports.

Refer to the "Installation '1.1.4 Overall configuration diagram (4) Figure 1.1.4-11 Configuration using trunk 2 Data ports' (INST 01-0078)".

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
Management IPv6 address :
```

Figure 5.1.2-5 Management Port IP Address Input window

(ii) Case of Configuration using Management port
Execute the same procedure with the description in Set Up "5.1.2 (a) At the initial installation (a-2) When the installed OS version is 3.1.0-XX or later" (SETUP 05-0072B).

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(b-3) In case of installing the OS version 4.1.1-XX or later
A message KAQM05282-Q is displayed.
Input “n” and press [Enter] key.
In case of the Configuration using trunk 2 Data ports, proceed to the step (i). In case of the Configuration using Management port, proceed to the step (ii).

NOTE: In case of inputting “y” for the message KAQM05282-Q and press [Enter], disabling DHCP is required before setting address. In this case, proceed to the step (5).

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1
KAQM05282-Q Do you want to use DHCP? (y/n): n
```

Figure 5.1.2-6 Execution Confirmation Window of the DHCP Setting

(i) Case of Configuration using trunk 2 Data ports
Execute the same procedure with the description in Set Up “5.1.2 (b) At the time of failure recovery (b-2) When the installed OS version is 3.1.0-XX or later as well as 4.1.1-XX or earlier” (SETUP 05-0073A).

(ii) Case of Configuration using Management port
Execute the same procedure with the description in Set Up “5.1.2 (a) At the initial installation (a-2) When the installed OS version is 3.1.0-XX or later” (SETUP 05-0072B).

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(4) Referent will be varied depending on the procedure executed in the step (3) shown above.
- If (a-1) or (b-1) was executed, refer to (4-1).
- If one of (a-2), (a-3), (b-2) or (b-3) was executed, refer to (4-2).

When the target procedure has completed, proceed to the step (6).

(4-1) Figure 5.1.2-6 Setting Confirmation Window is displayed.
After checking that there is no error in the information input in step (3), enter "y" in response to the KAQM05165-Q message, and then press [Enter] key.
When the KAQM05166-I message is output, the Management port settings are completed.
After setting the Management port IP address, check whether the settings are correct with referring to "Maintenance Tool '2.11 Displaying the Management Port Information (mngiflist)' (MNTT 02-0800)" and "Maintenance Tool '2.15 Displaying the Management Port Routing Information (mngroutelist)' (MNTT 02-0960)".

If there is any error in the input information, enter "n" and press [Enter] key, and then execute from step (2) again.

If the Management port settings failed, a message indicating the cause of the failure is output as shown in Figure 5.1.2-7. Take countermeasures by referring to Table 5.1.2-1.
After completion of the countermeasures, execute from step (2) again.

```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IP address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IP address (to skip, press [Enter]) :

KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05166-I The IP addresses of the management port and the BMC port were set.
~$
```

Figure 5.1.2-6 Setting Confirmation window

```
KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05019-E The specified gateway is not in the network.

Address Information
 Interface      : mng0
 Fixed IP addr  : 192.168.0.20
 Netmask        : 255.255.255.0
Routing Information
 no settings

[Select mode]
1. Set management port
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1 or 9):
```

Figure 5.1.2-7 Window when the Settings Failed

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NOTE: Step (2) through step (4) is to be applied only to the first login after the new installation.
When you change the Management port IP address,
refer to "Maintenance Tool '2.12 Setting the Management Port Information (ownmngifedit)' (MNTT 02-0840)".

(4-2) Figure 5.1.2-8 Setting Confirmation Window is displayed.
After checking that there is no error in the information input in step (3), enter "y" in response to the KAQM05165-Q message, and then press [Enter] key.
When the KAQM05166-I message is output, the Management port settings are completed.
After setting the Management port IP address, check whether the settings are correct by refer to "Maintenance Tool '2.11 Displaying the Management Port Information (mngiflist)' (MNTT 02-0800)" and "Maintenance Tool '2.15 Displaying the Management Port Routing Information (mngroutelist)' (MNTT 02-0960)".

If there is any error in the input information, enter "n" and press [Enter] key, and then execute from step (2) again.

If the Management port settings failed, a message indicating the cause of the failure is output as shown in Figure 5.1.2-9. Take countermeasures by referring to Table 5.1.2-1.
After completion of the countermeasures, execute from step (2) again.

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```
KAQM05163-I Select a mode, and then press [Enter]. (1 or 9): 1

Management IPv4 address : 192.168.0.20
Netmask : 255.255.255.0
Default gateway IPv4 address (to skip, press [Enter]) :
BMC IPv4 address  :  192.168.0.22
Management IPv6 address :

KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05166-I The IP addresses of the management port and the BMC port were set.
```

Figure 5.1.2-8 Setting Confirmation window

```
KAQM05165-Q Do you want to set the management port and the BMC port? (y/n) y
KAQM05019-E The specified gateway is not in the network.

Address Information
IPv4
Interface      : mng0
 Fixed IP addr   : 192.168.0.20
 Netmask         : 255.255.255.0
Routing Information
 no settings

[Select mode]
1. Set management port
9. Exit

KAQM05163-I Select a mode, and then press [Enter]. (1 or 9):
```

Figure 5.1.2-9 Window when the Settings Failed

NOTE: Step (2) through step (4) is to be applied only to the first login after the new installation. When you change the Management port IP address, refer to "Maintenance Tool '2.12 Setting the Management Port Information (ownmngifedit)' (MNTT 02-0840)".

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Table 5.1.2-1 Message IDs and Countermeasures (1/2)

No.	Message ID	Message	Description	Countermeasure
1	KAQM05010-E	An internal error occurred.	An internal error occurred.	Collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
2	KAQM05019-E	The specified gateway is not in the network.	The specified gateway does not exist in the network.	Specify a gateway within the same network.
3	KAQM05020-E	An attempt to set routing information failed.	Setting the routing information has failed.	Check if a failure occurs or not in the network. If the same error occurs by retrying the operation, collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
4	KAQM05028-E	The specified routing entry already exists.	The specified routing entry exists already.	For the measurement method, refer to "Maintenance Tool '2.16.3 Command termination messages and action to be taken' (MNTT 02-1050)".
5	KAQM05051-E	An attempt to restart the network has failed.	Network reboot has failed.	Check if a failure occurs or not in the network. If the same error occurs by retrying the operation, collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
6	KAQM05055-E	An attempt to read the file to be used for the requested processing has failed.	Reading the file to be used for the requested processing has failed.	Collect the OS log and send it to the Technical Support Center. For procedures of collecting the OS log, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)".
7	KAQM05056-E	An attempt to write to the file to be used for the requested processing has failed.	Writing the file to be used for the requested processing has failed.	

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Table 5.1.2-1 Message IDs and Countermeasures (2/2)

No.	Message ID	Message	Description	Countermeasure
8	KAQM05163-I	Select a mode, and then press [Enter]. (1 or 9):	This message is output in the first login with the service account.	Enter “1” or “9”.
9	KAQM05164-E	The format of the specified IP address is invalid.	The specified value is not correct.	Check the specified value and specify enabled data.
10	KAQM05165-Q	Do you want to set the management port and the BMC port? (y/n)	Do you want to execute the management port and the BMC port settings?	Enter “y” to execute the settings, or enter “n” to cancel the settings.
11	KAQM05166-I	The IP addresses of the management port and the BMC port were set.	The management port and the BMC port settings have been completed.	—
12	KAQM05167-I	The next time you log in, the mode selection menu will be displayed.	In the next login, the [Select mode] window is displayed again.	Execute the management port settings before starting operations.
13	KAQM05169-I	The connection with a NNC was cut because the IP address or netmask of the management LAN port was changed. Wait a while, and then retry the operation.	The connection with a NNC was cut because the IP address or network segment of the management LAN port was changed. Wait a while, and then retry the operation.	Wait for a while, and then retry the operation.
14	KAQM05171-E	The IP address of the BMC port cannot be set because the network address of the specified IP address differs from the network address of the private maintenance port. (BMC port network address = <*BMC address*>, private maintenance port network address = <*pm0 address*>).	The network address of the specified IP address is different from the one of Private Maintenance port.	Specify the IP address of BMC network address to have the same network address with Private Maintenance port.
15	KAQM05194-E	The entered prefix length is invalid.	There is an error exists in the entered prefix length.	Specify a number in the range from 0 to 128 and retry.

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(5) Disable the DHCP setting and set the fixed IP address of the Management port.

NOTE: For the IP address and the routing information of the Management port, set the value specified by the customer.
If the IP address of the Management port was not specified by the customer at the time of the initial installation, input the default value shown below. In this case, the procedure (d) is not necessary.
Also, if operated with IPv6 only, input the default value shown below. In this case, execute the setting for IPv6 only in the procedure (d).

Management port: 192.168.0.20 / 255.255.255.0

(a) Execute the dhcpget command and confirm the current DHCP setting.
For the details of the dhcpget command, refer to "Maintenance Tool '2.96 Displaying DHCP Setting of the Network Interface (dhcpget)' (MNTT 02-5030)".

(b) Either disable the DHCP setting or cancel the DHCP setting which is waiting for the reflection.
If the current DHCP setting is enabled ("On"), execute "Maintenance Tool '2.97 DHCP Setting of Network Interface (dhcpset) 2.97.2 (1) Disabling DHCP Setting' (MNTT 02-5080)" to disable the DHCP setting.
If the current DHCP setting is disabled ("Off") and the message to show that the DHCP setting is waiting for the reflection, is output, execute "Maintenance Tool '2.97 DHCP Setting of Network Interface (dhcpset) 2.97.2 (2) Cancelling the DHCP Setting Waiting for the System Reflection' (MNTT 02-5090)" to cancel the DHCP setting which is waiting for the reflection.
If the current DHCP setting is disabled ("Off") and the message to show that the DHCP setting is waiting for the reflection, is not output, proceed to the step (c).

(c) Set the IP address of the Management port
Execute the IP address setting referring to "Maintenance Tool '2.12 Setting the Management Port Information (ownmngifedit)' (MNTT 02-0840)".
However, if the DHCP setting was disabled in the above step (b), address setting of IPv4 is not required. Once the setting has completed, confirm it referring to "Maintenance Tool '2.11 Displaying the Management Port Information (mngiflist)' (MNTT 02-0800)".

(d) Set the routing information of the Management port.
Execute the setting referring to "Maintenance Tool '2.16 Adding the Management Port Routing Information (mngrouteadd)' (MNTT 02-1000)".
However, if the DHCP setting was disabled in the above step (b), address setting of IPv4 is not required. Once the setting has completed, confirm it referring to "Maintenance Tool '2.15 Displaying the Management Port Routing Information (mngroutelist)' (MNTT 02-0960)".

Proceed to the step (6).

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(6) Determine the next procedure by referring to Table 5.1.2-2.

NOTE: In the configuration connected to the disk array subsystem, connect the node and the disk array subsystem.

Table 5.1.2-2 Next Procedure Determination Table

No.	Connected to disk array subsystem	OS version to be installed (*1)	Current status	Next procedure
1	No	3.2.3-XX or earlier	—	(8) → (9)
2		4.0.0-XX or later	—	(9)
3	Yes	3.2.3-XX or earlier	—	(7) → (9)
4		4.0.0-XX or later	Failure recovery	(9)
5			New installation	(7) → (9)

*1: OS version is described on the installation medium (DVD.)

For connecting the disk array subsystem, refer to "Disk Setting 'Chapter 2 Disk Setting for AMS2000 Series, MSS, and HUS100 Series' (DSKST 02-0000)" for AMS 2000 series and HUS100 series, and refer to "Disk Setting 'Chapter 3 Disk Setting for USP V, USP VM, VSP, VSP G1000, VSP Gx00/VSP Fx00, and HUS VM' (DSKST 03-0000)" for USP V, USP VM, VSP, VSP G 1000, VSP Gx00/VSP Fx00, and HUS VM.

(7) In the configuration connecting with the disk array subsystem, check the FC path status of the node.
Refer to Maintenance Tool '2.5 Displaying the FC Status (fpstatus) 2.5.3 (2) (*l*)' (MNTT 02-0333)", and check that [Status] of model name, serial number, and FC path of the disk array subsystem connected to the node are all displayed as [Online.] In addition, when the OS version is 3.2.3-XX or earlier, also check that only one LU is displayed.

If there is no problem with FC path status, proceed to next procedure as shown below.
When the OS version is 3.2.3-XX or earlier, reboot the OS and proceed to step (9).
When the OS version is 4.0.0-XX or later and you are performing a new installation, proceed to step (9).
For rebooting the OS, refer to "Maintenance Tool '2.29 Rebooting the OS of This Side Node (nasreboot)' (MNTT 02-1790.)"

If there is a problem with FC path status, disconnect FC cable connection and check the FC-SW zoning setting and mapping setting.
If no LU is displayed, check the FC cable connection. If two or more LUs are displayed, there is a possibility that the storage configuration settings are wrong or that have been changed from the settings at the time of introduction. Remove the FC cable, and then request the system administrator to confirm the LDEV which is being used and modify the configuration.

NOTE: Do not reboot the OS while connecting FC cable when there is a problem with FC path.

After completing confirmation, execute fpstatus command again and check the status. If there is no problem with FC path status, reboot the OS and proceed to step (9).
If other than [Online] is shown as the [Status] of the FC path, take measures with reference to "Troubleshooting '5.1 Determining FC Path Failures' (TRBL 05-0000)."

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(8) Use diskfreeget command and make sure that the free space of the user data is the free space as shown in the Table 5.1.2-3.
For how to confirm the free space, refer to "Maintenance Tool '2.64 Displaying the Free Space Amount and the Whole Capacity Amount of User Disk (diskfreeget)' (MNTT 02-3430)".
The drive size can be confirmed by [InternalHDD Information] by referring to "B.3.1. Hardware status display (hwstatus)." The internal drive size is displayed as about 90% of the actual drive size.
However, when meeting any of the following conditions, confirming free space is not necessary.
- When it is installed without the RAID reconfiguring (because the user data may have been created already)
- In the configuration connected to the disk array subsystem (because the free space is not stable)
- When the OS version is 4.0.0-XX or later

Table 5.1.2-3 Free Space in each HDD Size

Internal drive size	Number of internal drives	Free Space (GB)
3TB	6	11175
	12	27939
2TB	6	7280
	12	18200
1TB	6	3532
	12	8830

(9) After completing the installation, check the version of the OS.
Refer to "Maintenance Tool '2.34 Displaying the Version of the OS (versionlist)' (MNTT 02-2060)", and check whether the version of the OS is the installed version or not.
If the version is different from the one that installed, execute the installation procedures again beginning with Set Up "3.2 The node Status Confirmation before Installation" (SETUP 03-0010).
If the version is the same as the one to be installed, proceed to step (10).
In the case the target model is "Dell™ PowerEdge™ R710" or "D51B-2U", proceed to step (12).

(10) Check the version of the hardware maintenance agent.
Refer to "Maintenance Tool '2.59 Check the Version Information of Hardware Maintenance Agent (miacatget)' (MNTT 02-3200)", and record the version of the hardware maintenance agent.
To check the version, refer to the version management table (Web).
If the version of the hardware maintenance agent needs to be updated, refer to "Maintenance Tool '2.60 Updating the Hardware Maintenance Agent (miacatupdate)' (MNTT 02-3230)" and update it

(11) Set the model code and the product code of the hardware maintenance agent.
Refer to "Maintenance Tool '2.62 MIACAT Setup Wizard (ast_setup)' (MNTT 02-3340)" and set the model code and the product code of the hardware maintenance agent.

(12) Execute rgstatus command and check whether the resource group is running normally. For the confirmation method, refer to "Maintenance Tool '2.63 Resource group Status Display (rgstatus)' (MNTT 02-3380)".

NOTE: Although [OS error] will be displayed if the FC cable is not connected in the configuration connected to the disk array subsystem, proceed to step (13).

(13) If the configuration is connected with the disk array subsystem, check the version of the HBA firmware with reference to the "Maintenance Tool '2.24 Checking the HBA Firmware Version (fchbafwlist)' (MNTT 02-1600)." Refer to the Version management table (web) for the version confirmation. If the HBA firmware version need to be upgraded, upgrade the firmware with reference to the "Maintenance Tool '2.25 Updating the HBA Firmware (fchbafwupdate)' (MNTT 02-1630)." If the HBA firmware version does not need to be upgraded, proceed to step (14).

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(14) Check the firmware version of the RAID controller.
Refer to "Maintenance Tool '2.46 Confirming the Built-in RAID Controller Firmware Version (internalraidfwget)' (MNTT 02-2610)", and check the firmware version of the RAID controller.
To check the version, refer to the version management table (Web).
If the firmware version of the RAID controller needs to be updated, refer to "Maintenance Tool '2.47 Updating the Built-in RAID Controller Firmware (internalraidfwupdate)' (MNTT 02-2640)", and update the firmware.
If the firmware version of the RAID controller is appropriate, proceed to step (18).

(15) In the case of CR220SM or D51B-2U, proceed to step (16). If not, proceed to step (18).

(16) Confirm that the cache write mode of the RAID controller is "Write Back" by executing cachedbadbbuget command. For how to confirm, refer to "Maintenance Tool '2.70 Displaying the Set Value for the Cache Write Mode when the Battery Level of the Internal RAID Battery Falls (cachedbadbbuget)' (MNTT 02-3710.)" If the cache write mode is "Write Back", proceed to step (18), and if it is "Write Through", proceed to step (17) to change it to "Write Back."

(17) Set the cache write mode of the RAID controller to "Write Back" by executing cachedbadbbuset command. For how to set, refer to "Maintenance Tool '2.69 Setting the Cache Write Mode when the Battery Level of the Internal RAID Battery Falls (cachedbadbbuset)' (MNTT 02-3680)".

(18) Check the hardware status of the installed node.
Refer to "B.3.1 Displaying the Hardware Status (hwstatus)", and check the hardware status.
Confirm that [BMC Information] [status] is displayed as [OK], [InternalRAIDBattery Information] is displayed as [OK], [mng0] and [pm0] are displayed as [UP] in [Network Interface].
Otherwise, failure is suspected. Please remove the cause of failure according to "Replacement 'Chapter1 Replacing the Components of Hitachi Data Ingestor' (REP 01-0000)".

(19) In the case that the front bezel is used and has been removed, install the front bezel. For how to install a front bezel, refer to "A.2.1 Front side".

If you perform these procedures (5.1.2) as a step of failure recovery in the single node configuration, these procedures are completed at this step (19).
If you perform these procedures as a step of initial installation in the single node configuration, the following procedures using GUI for management become available when the procedures up to this procedure are completed. Therefore, report to the system administrator or the customer SE that the following procedure become available, and requests them to execute those procedures.

- Connecting Data port cables (Only in the case of using Data port)
- Setting license
- System setting

For the reference place in User's Guide, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 5 'Setting Up'' (GENE 00-0060)".
When the system administrator or the customer SE has been informed that the cluster configuration can be executed, the installation operation is completed.

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5.2 Setting/Confirmation after Update Installation

The required items to be executed after completing the update installation are shown below.

In the cluster configuration, refer to 5.2.1 Setting and confirming the cluster configuration.

In the single node configuration, refer to Set Up "5.2.2 Setting and confirming the single node configuration" (SETUP 05-0100).

5.2.1 Setting and confirming the cluster configuration

NOTE: When requesting the system administrator for failback, failover and starting or stopping the cluster of a node, check the cluster status of the node in "Maintenance Tool '2.2 Displaying the Cluster Status (clstatus)' (MNTT 02-0040)" before the request.
After completing the operation by the system administrator, check the cluster status of the node with "Maintenance Tool '2.2 Displaying the Cluster Status (clstatus)' (MNTT 02-0040)".
However, if the system administrator is absent, the maintenance personnel should contact to system administrator and get the permission from him/her to execute the above operation. For the execution procedure, refer to "Maintenance Tool '3.2 Failback and Start of Node After Starting the OS' (MNTT 03-0030)".

The required items to be executed after completing the update installation are shown below.

(1) After completing the installation, check the version of the OS.
Refer to "Maintenance Tool '2.34 Displaying the Version of the OS (versionlist)' (MNTT 02-2060)", and check whether the version of the OS is the installed version or not.

If the version is different from the one to be installed, execute the installation procedures again beginning with Set Up "4.1 The node Status Confirmation before Installation" (SETUP 04-0000).
If it is the installed version, proceed to step (2).

(2) Check the hardware status of the installed node.
Refer to "B.3.1 Displaying the Hardware Status (hwstatus)", and check the hardware status.
If a failure has occurred, refer to "Replacement 'Chapter1 Replacing the Components of Hitachi Data Ingestor' (REP 01-0000)", and handle every failure.

NOTE: On update installation to the OS version 3.2.3-XX and 4.X.X(4.1.0-01 or earlier) when the current version is 3.2.2-XX or earlier, a link-down may occur due to the failure of transferring network interface information.
When a link-down occurs, request the system administrator to check whether the negotiation mode of network port is set to other than [Auto]. If it is set to other than [Auto], request he/she to change the auto negotiation of the switch to "OFF."

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(3) Check the FC path status of both nodes.
Refer to "Maintenance Tool '2.5 Displaying the FC Status (fpstatus)' (MNTT 02-0280)", and check that "Status" of the FC path is all "Online".
If "Status" of the FC path shows other than "Online", refer to "Troubleshooting '5.1 Determining FC Path Failures' (TRBL 05-0000)", and handle it.

```
$ sudo fpstatus
Path              Target     HostPort   HostPortWWN       ArrayPort  ArrayPortWWN     Status
path000-0000-0A   N0-T000    fc0004     5000087000302100  0A         50060e800044b632 Online
path001-0002-1B   N0-T001    fc0005     5000087000302102  1B         50060e800044b634 Online
```

Figure 5.2.1-1 FC Path Status Confirmation

(4) Request the system administrator to start the resource group and the cluster of the node.
When the resource groups of both nodes are running in one side node due to performing failover, request the system administrator to set the "Node Status" of the node that is executed installation to "UP" and to perform failback the resource group of the node, which has been performed failover, to the node that is executed installation.
When the cluster of both nodes is terminated, request the system administrator to start the cluster of both nodes and to start the both resource groups for restarting the cluster of the nodes.
For the reference place in User's Guide describing the details about starting a cluster, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Stopping and starting a cluster'' (GENE 00-0040)", for the reference place in User's Guide describing the details about starting a node, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Stopping and starting a node'' (GENE 00-0040)", for the reference place in User's Guide describing the details about failover/failback of a resource group, refer to "General 'Reference Place in User's Guide for Operating Procedures Table 4 'Changing the execution node of a resource group'' (GENE 00-0040)".
However, when the system administrator is absent, the maintenance personnel should contact to system administrator and get the permission from him/her to execute the above operation. For the execution procedure, refer to "Maintenance Tool '3.2 Failback and Start of Node after Starting the OS' (MNTT 03-0030)".

(5) Execute versionlist command, and check the current installed OS version. For the confirmation methods, refer to "Maintenance Tool '2.34 Displaying the Version of the OS (versionlist)' (MNTT 02-2060)".

(6) In the case the OS version is 3.0.0-XX or later, delete the system setting file acquired at the Set Up "4.1.1.2 When the OS version is 3.0.0-XX or later (1)" (SETUP 04-0000).
In the case the OS version is 2.2.1-XX or earlier, this procedure is not required.

(7) In the case that the front bezel is used and has been removed, install the front bezel. For how to install a front bezel, refer to "A.2.1 Front side".

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5.2.2 Setting and confirming the single node configuration

The required items to be executed after completing the update installation are shown below.

(1) If the configuration is connected with the disk array subsystem, verify the FC path status of the node.
If the configuration is not connected with the disk array subsystem, skip this operation.
Refer to "Maintenance Tool '2.5 Displaying the FC Status (fpstatus)' (MNTT 02-0280)", and make sure that the port name of the disk array subsystem that is connected with the node matches [ArrayPort], and the [Status] of FC paths are all shown as [Online].

If the port name of the disk array subsystem that is connected with the node does not match the [ArrayPort], check the FC cable connection and the setting of the disk array subsystem.
If there is other than "Online" is shown on the [Status] of the FC path, take measures with reference to the "Troubleshooting '5.1 Determining FC Path Failure' (TRBL 05-0000)."

```
$ sudo fpstatus
Path                Target    Host Port   HostPortWWN          ArrayPort   ArrayPortWWN      Status
path000-0000-0A N0-T000 fc0004   5000087000302100 0A     50060e800044b632          Online
path001-0002-1B N0-T001 fc0005   5000087000302102 1B     50060e800044b634          Online
```

Figure 5.2.2-1 FC Path Status Confirmation

(2) Request the system administrator to execute such as fslist command to confirm the file system information is correct or not.

(2-1) When the OS version is upgraded from 3.2.3-XX or earlier to 4.0.0-XX, check the status of user LUs.
Execute the lumaplist command to confirm that [size] of user LUs in the volume group are displayed.
For details, refer to "Maintenance Tool '2.65 User LU Mapping Display (lumaplist)' (MNTT 02-3470.)"
If [size] is not displayed, it is required to delete the volume group and recover the failure of the LU.
Perform a failure recovery by referring to "C.2.2.2 Failure determination procedure at the single node configuration."

(3) After completing the installation, check the version of the OS.
Refer to "Maintenance Tool '2.34 Displaying the Version of the OS (versionlist)' (MNTT 02-2060)", and check whether the version of the OS is the installed version or not.

If the version is different from the one that installed, execute the installation procedures again beginning with Set Up "4.1 The node Status Confirmation before Installation" (SETUP 04-0000).
If it is the installed version, proceed to step (4).

(4) Execute rgstatus command to check whether the resource group runs normally or not. For the confirmation method, refer to "Maintenance Tool '2.63 Resource group Status Display (rgstatus)' (MNTT 02-3380)".

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(5) Check the hardware status of the installed node.
Refer to "B.3.1 Displaying the Hardware Status (hwstatus)", and check the hardware status.
If a failure has occurred or if a state of [InternalRAIDBattery Information] is displayed with [-], refer to "C.2.2.2 Failure determination procedure at the single node configuration", and handle every failure.

NOTE: On update installation to the OS version 3.2.3-XX and 4.X.X(4.1.0-01 or earlier) when the current version is 3.2.2-XX or earlier, a link-down may occur due to the failure of transferring network interface information.
When a link-down occurs, request the system administrator to check whether the negotiation mode of network port is set to other than [Auto]. If it is set to other than [Auto], request he/she to change the auto negotiation of the switch to "OFF."

(6) If the OS version is 3.0.0-XX or later, delete the system setting file acquired at the Set Up "4.1.1.2 When the OS version is 3.0.0-XX or later (1)" (SETUP 04-0000).
If the OS version is 2.2.1-XX or earlier, this procedure is unnecessary.

(7) In the case that the front bezel is used and has been removed, install the front bezel. For how to install a front bezel, refer to "A.2.1 Front side".

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Chapter 6 Troubleshooting at the Time of OS Installation Failure

NOTE: This chapter is the troubleshooting at the time of failures by new installation performed by DVD Boot or update installation.
Request the system administrator for the troubleshooting at the time of installation using Hitachi File Services Manager.

If an error has occurred during the OS installation, a message ID of the error message as shown in Figure 6-1 is displayed in the console window.

```
[Message ID]
KAQG61022-E  A timeout occurred during the installation.
```

Figure 6-1 A Sample Error Message

[KAQG61001-I] or [KAQG61031-Q] message is displayed after the error message. If [KAQG61001-I] is displayed, refer to the description in (1). If [KAQG61031-Q] is displayed, refer to the description in (2).

(1) When [KAQG61001-I] is displayed
When the installation failed, [KAQG61001-I] message is displayed after the error message as shown in Figure 6-2.

```
[Message ID]
KAQG61022-E  A timeout occurred during the installation.

KAQG61001-I Eject the installation media, and then press the [Enter] key
```

Figure 6-2 Example of OS Installation Failure

The procedure after the message ID is output is shown below.
① Write down the [Message ID] shown in the red frame in Figure 6-2.
② Remove the installation media from the DVD drive, and press [Enter] key.
③ The OS shutdown is started. Confirm that the node is terminated.
The node termination takes about five minutes.
④ If the power indicator is not turned off, refer to "Installation '2.1.2 Procedures for turning off the power' (INST 02-0050)", and execute forced termination.
⑤ Refer to Set Up "Table 6.1-1 List of Messages" (SETUP 06-0010), and start the failure recovery operation in reference to the corresponding flow of the relevant message ID.
Note that, if the message same as that of initial installation is output at the time of executing second installation, return to the flow in the process and execute the rest of the operations.

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(2) When [KAQG61031-Q] is displayed
When the installation failed, [KAQG61031-Q] message is displayed after the error message as shown in Figure 6-3.
Execute the following procedure described below.

```
[Message ID]
KAQG61022-E A timeout occurred during the installation.

KAQG61031-Q Do you want to switch to maintenance mode? (y/n):
```

Figure 6-3 Next Procedure Selecting window

① Write down the [Message ID] shown in the red frame in the Figure 6-3.
② Refer to Set Up "Table 6.1-1 List of Messages" (SETUP 06-0010), and start the failure recovery operation with reference to the corresponding flow of the relevant message ID. The selecting in the above window leads to the instruction in the flow.
Note that, if the message same as that of initial installation is output at the time of executing second installation, return to the flow in the process and execute the rest of the operations.

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6.1 Message displayed when the installation failed

The messages displayed at the time of installation and the references are shown in Table 6.1-1.

NOTE: HATP might be used for collecting logs or locating faulty hardware in the procedures listed in "maintenance Personnel Procedure". If the node to be maintained is D51B-2U, use MegaRAC GUI and download the Event Log. If the node to be maintained is CR210HM or CR220SM, hold down the Power light switch and be sure to turn off the node once before performing HATP.
Make sure that the CD of HATP is not inserted before turning off the node, or the node cannot be restarted.

Table 6.1-1 List of Messages (1/3)

#	Message ID	Message	maintenance Personnel Procedure	Installation type	Cause of failure
1	KAQG61007-E	An attempt to acquire the list of packages has failed. (details code = <*details code*>)	Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (1)".	New Installation Update installation	New Installation failed Update installation failed
2	KAQG61008-E	An attempt to copy a package has failed. (details code = <*details code*>)			
3	KAQG61010-E	An attempt to acquire the version information has failed. (details code = <*details code*>)			
4	KAQG61025-E	Acquisition of the internal HDD configuration information failed. (details code = <*details code*>, detailed message = <*detailed message*>)			
5	KAQG61027-E	Initialization of the internal HDD failed. (details code = <*details code*>, detailed message = <*detailed message*>)			
6	KAQG61020-E	An internal error has occurred. (details code = <*details code*>)	Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (2)". Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (3)".		
7	KAQG61021-E	An installation script failed. (script name = <*script name*>)			
8	KAQG61022-E	A timeout occurred during the installation.			
9	KAQG61009-E	An attempt to install a package has failed. (details code = <*details code*>)			
10	KAQG61011-E	An attempt to write to a system file has failed. (details code = <*details code*>)			
11	KAQG61012-E	An attempt to access an internal HDD has failed. (details code = <*details code*>)			
12	KAQG61013-E	An attempt to mount a file system has failed. (number of partitions = <*number of partitions*>)			
13	KAQG61014-E	An attempt to back up the settings file has failed.			
14	KAQG61015-E	An attempt to restore the settings file has failed.			
15	KAQM01024-E	A version earlier than the already installed version cannot be installed. (The specified version = <*version*>)			

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Table 6.1-1 List of Messages (2/3)

#	Message ID	Message	maintenance Personnel Procedure	Installation type	Cause of failure
16	KAQM01025-E	An attempt to install the program failed.	Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (2)". Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (3)".	New Installation Update installation	New Installation failed Update installation failed
17	KAQM01026-E	An attempt to install the program failed.			
18	KAQM01028-E	Internal processing failed.			
19	KAQM01097-E	An attempt to install Primary Server Base failed.			
20	KAQM14105-E	Some of the resources to be used for the requested processing are being used by another user.			
21	KAQM14134-E	An error occurred in the shared processing of commands. (Error = <*error*>)			
22	KAQM14150-E	An error occurred in the system.			
23	KAQM14152-E	This operation cannot be performed on the virtual server.			
24	KAQG61016-E	An attempt to configure the boot loader has failed.		Update installation	Update installation failed
25	KAQG61018-W	An update installation cannot be performed because there is not enough space on the internal HDDs. (name of directory = <*name of director*>)	Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (4)".		
26	KAQG61024-E	An update installation to this version cannot be performed. (currently installed program version = <*version*>, program version that an attempt was made to upgrade to = <*version*>)	Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (5)".		Version check at the time of update installation
27	KAQG61028-E	No OS is installed. An update installation is not supported if no OS is installed. (details code = <*details code*>, detailed message = <*detailed message*>)	Refer to "C.2.1 Procedures of Troubleshooting at the Time of Setup (6)".		Executing update installation in the state of no OS installed.

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Table 6.1-1 List of Messages (3/3)

#	Message ID	Message	maintenance Personnel Procedure	Installation type	Cause of failure
28	KAQG61035-E	The upgrade installation failed because the inserted installation media is for a product different from the currently installed product. (currently installed product = <currently installed product>, product on installation media = <product on installation media>)	(*1)	Update installation	The inserted installation media is for a product different from the currently installed product.
29	KAQG61038-E	An installation that is not from the internal CD/DVD drive is not supported.(*detailed-message*)	(*2, *3) (Refer to *2 first.)	New Installation Update installation	•Use the media of the node that is different from the node to be maintained. •Installation media is broken. •DVD drive has a problem.

*1: Select "y" in the confirmation window in which KAQG61031-Q is displayed. For the details, refer to Set Up "6.2.1 When entering "y" (transit to the maintenance mode)" (SETUP 06-0030).
After transiting to the maintenance mode, refer to "Maintenance Tool '2.19 Collecting Logs (oslogget)' (MNTT 02-1300)" to collect the log. After collecting the log, remove the installation media, and then contact the Technical Support Center to ask to send the installation media that is the same product name as the one installed.
After receiving a new installation media, refer to Set Up "Chapter 4 Update Installation" (Setup 04-0000) and execute update installation with the media.

*2: Remove the installation media to confirm that the label on the installation media is the same product name as the node name to be maintained.
If the label name and the product are same, perform *3.
If the label name and the product name are different, contact the Technical Support Center to ask to send the correct installation media, and then install again. For the installation procedure, refer to Set Up "Chapter 3 New Installation" (SETUP 03-0000) or Set Up "Chapter 4 Update Installation" (SETUP 04-0000).
When the installation is completed successfully, the task is finished. If the installation fails and the same message is output, perform *3.

*3: Confirm that the installation media is set correctly, and then restart the node and install again. For the installation procedure, refer to Set Up "Chapter 3 New Installation" (SETUP 03-0000) or Set Up "Chapter 4 Update Installation" (SETUP 04-0000).
Confirm that the busy indicator on the DVD drive blinks when the node restarts. If the busy indicator does not blink, remove the media from the DVD drive and refer to "Replacement '1.2 Parts Replacement only when the Node is Turned Off' (REP 01-0070)" to replace the DVD drive and install again.
If the installation mode selection window is not displayed even if the busy indicator on the DVD drive blinks, the media might have a problem. Contact the Technical Support Center to obtain the new installation media and install again.
When the installation is completed successfully, the task is finished. If the installation fails and the same message is output, contact the Technical Support Center.

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6.2 Window transition when the installation failed

The following shows each operation procedure when the window of maintenance mode transition confirmation is displayed as shown in Figure 6.2-1 at the time of installation failed.

```
KAQG61031-Q Do you want to switch to maintenance mode? (y/n):
```

Figure 6.2-1 Maintenance Mode Transition Confirmation window

6.2.1 When entering “y” (transit to the maintenance mode)

To transit to the maintenance mode on the purpose of collecting logs after the installation failed, enter “y.”
When entering “y” at the [KAQG61031-Q], the mode transits to the maintenance mode with the following procedure.

(1) IPv4 address of the maintenance port input window is displayed as shown in Figure 6.2.1-1.
Enter IPv4 address of the Private Maintenance port to be used in the maintenance mode.
If a label on which the IP address of the Private Maintenance Port is written is attached on the node, enter the IPv4 address. If there is no label is attached on the node, enter [10.0.0.51] for the node0 and [10.0.0.52] for the node1 in the cluster configuration, and enter [10.0.0.51] in the single node configuration, and then press [Enter] Key.

```
[Maintenance port settings]
Enter an IPv4 address, and then press the [Enter] key.
IPv4 Address:
```

Figure 6.2.1-1 IPv4 Address of the Private Maintenance Port Input window

After entering IPv4 address, the IPv6 address input window is displayed as shown in Figure 6.2.1-2. Unless specially instructed, press [Enter] key in the state of not entering anything.
If there is an instruction to enter the IPv6 address, enter the specified IPv6 address.
Note that, IPv6 address of the maintenance port is fixed until [fe80::1:], input the last octet part only. The available input range is 0000 to 00ff.

```
[Maintenance port settings]
Enter an IPv6 address, and then press the [Enter] key. (The fe80::1: part is fixed.
Only 00 to ff can be specified for the last part.) If the IPv6 address setting is
unnecessary, simply press the [Enter] key.
IPv6 Address: fe80::1:
```

Figure 6.2.1-2 IPv6 Address of the Private Maintenance Port Input window

NOTE: The Private Maintenance port IP address to be entered here is the tentative IP address that is used in the maintenance mode. The OS IP address does not change if a different IP address from the IP address of the Private Maintenance port set in the OS is input. The subnet mask of the IPv4 address is fixed as “255.255.255.0,” and the prefix length of the IPv6 address is fixed as “64.”

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(2) The maintenance mode startup confirmation window as shown in Figure 6.2.1-3 is displayed.
Figure 6.2.1-3 shows a case of the maintenance port IP address (10.0.0.51). The IPv6 address is not entered.
Check the displayed contents, and if there is no error found, enter “y” and press [Enter] key to proceed to step (3).
If there is an error found in the contents, enter “n” and press [Enter] key to go back to the maintenance mode transition confirmation window as shown in Figure 6.2-1.

```
KAQG61031-Q Do you want to switch to maintenance mode? (y/n): y

[Maintenance port settings]
Enter an IPv4 address, and then press the [Enter] key.
IPv4 Address: 10.0.0.51

[Maintenance port settings]
Enter an IPv6 address, and then press the [Enter] key. (The fe80::1: part is fixed. Only 00 to ff can be
specified for the last part.) If the IPv6 address setting is unnecessary, simply press the [Enter] key.
IPv6 Address: fe80::1:

KAQG61032-Q Are you sure you want shift to maintenance mode by this settings? (y/n):
```

Figure 6.2.1-3 Maintenance Mode Startup Confirmation window

(3) [KAQG61001-I] is displayed. Remove the installation media from the DVD drive, and then press [Enter] key.
After that, Figure 6.2.1-4 Maintenance mode startup window is displayed. Return to the caller of the operation and execute the rest of the operations.

```
KAQG61032-Q Are you sure you want shift to maintenance mode by this settings? (y/n):y
KAQG61001-I Eject the installation media, and then press the [Enter] key.
KAQG61004-I Start the OS in maintenance mode.
KAQG61033-I The following password inputs are unnecessary. (Please input only when there are
instructions from a maintenance personnel.)
service@localhost’s password:
```

Figure 6.2.1-4 Maintenance Mode Startup window

NOTE: Although the password input window is displayed after the completion of startup the maintenance mode, the operation by entering password is required when there is an instruction from the technical support center. When there is no instruction, the later operation is executed by connecting the maintenance PC.

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6.2.2 When entering “n” (Shut down the OS)

To shut down the OS on the purpose of replacing the parts or re-installing OS after the installation failed, enter “n.” When entering “n” at the [KAQG61031-Q], the shutdown process is performed with the following procedures.

(1) The shutdown confirmation message (KAQG61034-Q) is displayed as shown in Figure 6.2.2-1. To shut down, enter “y”, if not, enter “n,” and then press [Enter] key.
When entering “y”, proceed to Step (2).
When entering “n,” the display goes back to the Maintenance Mode Transition Confirmation window as shown in Figure 6.2-1.

```
KAQG61031-Q Do you want to switch to maintenance mode? (y/n): n
KAQG61034-Q Are you sure you want to shut down? (y/n):
```

Figure 6.2.2-1 Shutdown Confirmation Message (KAQG61034-Q)

(2) [KAQG61001-I] is displayed. Remove the installation media from the DVD drive, and then press [Enter] key. The shutdown startup window is displayed as shown in Figure 6.2.2-2. Proceed to Step (3).

```
KAQG61034-Q Are you sure you want to shut down? (y/n): y
KAQG61001-I Eject the installation media, and then press the [Enter] key.
KAQG61003-I The OS will now be shut down.
```

Figure 6.2.2-2 Shutdown Startup window

(3) OS shutdown is started. Confirm that the OS is stopped. It takes about 5 minutes to stop the OS.
If the power source indicator is not turned off, refer to “Installation ‘2.1.2 Procedures for turning off the power’ (INST 02-0050),” and stop the power indicator forcibly.
After stopping the OS, return to the caller of the OS shutdown operation and execute the rest of the operations.

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6.3 Maintenance Mode

Before starting with the maintenance mode, check that the node configuration is the single node configuration or the cluster configuration.
Assume that it is cluster configuration if the fibre channel card is installed in the node and that it is single node configuration if the fibre channel card is not installed in the node.
Refer to "Installation '1.1.5 Port arrangement and port names of the node' (INST 01-0080)" for the place of installing the extension slot.

6.3.1 The node status confirmation before starting maintenance mode

(1) node power status confirmation
It is necessary to terminate the node before starting the maintenance mode.
Check that the power indicator of the node is turned off.
If the power indicator of the node lights up, terminate the node.
For the position of the power indicator, refer to "Installation '2.1 Procedure for Turning on and off the Power' (INST 02-0000)".

(2) Hardware normality confirmation
When starting up the maintenance mode, check whether an error is detected or not from LED or LCD, with reference to the maintenance manual of the subject model. If an error occurs on the hardware, replace the part where the error occurs with reference to "Replacement 'Chapter 1 Replacing the Components of Hitachi Data Ingestor' (REP 01-0000)".

NOTE: If the target model is the HA8000 series and the appearance of the maintenance lamp is different from Figure 6.3.1-1, refer to "Troubleshooting '1.5 Appendix Contents Indicated by MAINTENANCE Lamp of Each Model' (TRBL 01-0050)" to check the indication and meaning of the maintenance lamp.
If the target model is D51B-2U, LED that specifies the failure part does not light up. Confirm that a hardware failure does not exist by checking the Event Log after starting MegaRAC GUI.

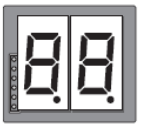

Figure 6.3.1-1 Appearance of MAINTENANCE Lamp

(3) In the case of CR220SM or D51B-2U, attach an external DVD-ROM drive.
For how to attach an external DVD-ROM drive, refer to "A.2.1.2 External DVD-ROM drive."

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6.3.2 Starting maintenance mode

(1) Confirm the BOOT priority order.
Refer to "B.2.3 BOOT Priority Order" for the confirmation method.
During this procedure of the BOOT Priority Order, set the installation media to the DVD drive of the node before exiting the BIOS setup menu.

(2) After a while, the Installation Mode Selection Window is displayed as in Figure 6.3.2-1.
Enter "3" and press [Enter] key.

```
[Mode select]
1. Initial install
2. Update install
3. Maintenance

KAQG61000-I Select a mode, and then press the [Enter] key. (1/2/3): 3
```

Figure 6.3.2-1 Installation Mode Selection window

NOTE:
- If the installation mode selection window in Figure 6.3.2-1 is not displayed even after some time passes and "No boot device available" or "Operating System not found" is displayed or the OS reboot processing is started, the BIOS boot sequence setting may not be correct. Reboot the node by pressing [Ctrl]+[Alt]+[Delete] keys, and then execute from "B.2.3 BOOT Priority Order (3)" again to check and correct the BIOS settings. In the case Remote console is used, hold down "Alt" key and press "L" key to reboot the node. The Remote console has the restriction on the operation of the [Alt] key. In the case of D51B-2U, refer to "QuantaGrid Series D51B-2U Technical Guide" to perform the key operations including the [Alt] key.
  If there is no error in the BIOS settings, reboot the node.
  See the following for the execution procedures.

  After that, check whether the DVD drive access lamp blinks at the time of starting the node. If it does not blink, remove the media from the DVD drive, and then replace the DVD drive by refer to "Replacement '1.2 Parts Replacement Only when the Node is Turned Off" (REP 01-0070)".
  If the DVD drive access lamp blinks, but the installation mode selection window in Figure 6.3.2-1 is not displayed, there may be a failure in the media. Contact the Technical Support Center and obtain new installation media.
- In the installation mode selection window in Figure 6.3.2-1, if you press [Ctrl]+[C] keys, a message to confirm the cancellation of starting the maintenance mode "KAQG61006-Q Are you sure you want to cancel the installation? (y/n):" is displayed.
  To cancel the start of maintenance mode, enter "y" in response to the KAQG61006-Q message, and then press [Enter] key. KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node OS is executed.
  To continue the start of maintenance mode, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter "n" in response to the KAQG61006-Q message, and then press [Enter] key.

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(3) Different contents will be displayed depending on the installed OS version. If the installed OS version is earlier than 3.1.0-XX, proceed to (3-1). If the installed OS version is 3.1.0-XX or later, proceed to (3-2).

(3-1) When the installed OS version is earlier than 3.1.0-XX
The Private Maintenance port IPv4 Address Input Window is displayed as in Figure 6.3.2-2.
Enter an IPv4 address of a Private Maintenance port to be used in the maintenance mode.
When a label on which an IP address of the maintenance port is written is put on the node, input the IPv4 address. If no label is put, set [10.0.0.51] for node 0, or set [10.0.0.52] for node 1.
In the single node configuration, set [10.0.0.51] for the node.

```
[Maintenance port settings]
IP Address:
```

Figure 6.3.2-2 Private Maintenance port IPv4 Address Input window

NOTE:
- The Private Maintenance port IP address input in step (3-1) is the temporary IP address used at the time of maintenance mode. Even if an IP address different from the Private Maintenance port that is set to the OS is input, the IP address of the OS is not changed. The subnet mask is fixed to “255.255.255.0”.
- In the Private Maintenance port IP address input window in Figure 6.3.2-2, if you press [Ctrl]+[C] keys, a message to confirm the cancellation of starting the maintenance mode “KAQG61006-Q Are you sure you want to cancel the installation? (y/n):” is displayed.
  To cancel the start of maintenance mode, enter “y” in response to the KAQG61006-Q message, and then press [Enter] key. KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node OS is executed.
  To continue the start of maintenance mode, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter “n” in response to the KAQG61006-Q message, and then press [Enter] key.

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(3-2) When the installed OS version is 3.1.0-XX or later
The Private Maintenance port IPv4 Address Input Window is displayed as in Figure 6.3.2-3.
Enter an IPv4 address of a Private Maintenance port to be used in the maintenance mode.
When a label on which an IP address of the maintenance port is written is put on the node, input the IPv4 address. If no label is put, set [10.0.0.51] for node 0, or set [10.0.0.52] for node 1.
In the single node configuration, set [10.0.0.51] for the node.

After entering IPv4 address, IPv6 Address Input Window is displayed as in Figure 6.3.2-4.
When a label on which an IP address of the maintenance port is written is put on the node and it is an IPv6 address, input it. Input the last octet only since [fe80::1:] is fixed. When a label is not put on the node or IP address is not written on it, press [Enter] key without entering anything.

```
[Maintenance port settings]
Enter an IPv4 address, and then press the [Enter] key.
IPv4 Address:
```

Figure 6.3.2-3 Private Maintenance port IPv4 Address Input window

```
[Maintenance port settings]
Enter an IPv6 address, and then press the [Enter] key. (The fe80::1: part is fixed.
Only 00 to ff can be specified for the last part.) If the IPv6 address setting is
unnecessary, simply press the [Enter] key.
IPv6 Address: fe80::1:
```

Figure 6.3.2-4 Private Maintenance port IPv6 Address Input window

NOTE:
- The Private Maintenance port IP address input in step (3-2) is the temporary IP address used at the time of maintenance mode. Even if an IP address different from the Private Maintenance port that is set to the OS is input, the IP address of the OS is not changed.
  The subnet mask of IPv4 address is fixed to “255.255.255.0” and the prefix length of IPv6 address is fixed to “64”.
- In the Private Maintenance port IPv4 address input window in Figure 6.3.2-3 or the Private Maintenance port IPv6 address input window in Figure 6.3.2-4, if you press [Ctrl]+[C] keys, a message to confirm the cancellation of starting the maintenance mode “KAQG61006-Q Are you sure you want to cancel the installation? (y/n):” is displayed.
  To cancel the start of maintenance mode, enter “y” in response to the KAQG61006-Q message, and then press [Enter] key. KAQG61001-I is displayed after that. Remove the installation media, and then press [Enter] key. Shutdown of the node OS is executed.
  To continue the start of maintenance mode, do not press [Ctrl]+[C] keys.
  If you press [Ctrl]+[C] keys by mistake, enter “n” in response to the KAQG61006-Q message, and then press [Enter] key.

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(4) If you executed (3-1), proceed to (4-1). If you executed (3-2), proceed to (4-2).

(4-1) Figure 6.3.2-5 Maintenance Mode Start Confirmation Window is displayed.
Figure 6.3.2-5 is an example in cluster configuration and it shows the case of node 0 and the Private Maintenance port IP address (10.0.0.51).
Check the displayed contents, and if there is any error, enter “n” and press [Enter] key.
It returns to step (2).
[Installation model] shows as [Single] in the case of single node configuration.
If there is no error, enter “y” and press [Enter] key.
It proceeds to step (5).

```
[Mode]
3. Maintenance
[Install parameters]
Installation model: Cluster
[Maintenance port settings]
IP Address:10.0.0.51

KAQG 61005-Q Are you sure you want to execute the selected mode? (Maintenance)(y/n):
```

Figure 6.3.2-5 Maintenance Mode Start Confirmation window

(4-2) Figure 6.3.2-6 Maintenance Mode Start Confirmation Window is displayed.
Figure 6.3.2-6 is an example in cluster configuration and it shows the case of node 0 and the Private Maintenance port IPv4 address (10.0.0.51). The IPv6 address is not input.
Check the displayed contents, and if there is any error, enter “n” and press [Enter] key.
It returns to step (2).
[Installation model] shows as [Single] in the case of single node configuration.
If there is no error, enter “y” and press [Enter] key.
It proceeds to step (5).

```
 [Mode]
3 . Maintenance

[Install parameters]
Installation model: Cluster

[Maintenance port settings]
IPv4 Address:10.0.0.51
IPv6 Address:

KAQG61005-Q Are you sure you want to execute the selected mode? (maintenance) (y/n):
```

Figure 6.3.2-6 Maintenance Mode Start Confirmation window

NOTE: To cancel the start of the maintenance mode, press [Ctrl]+[C] keys.
“KAQG61006-Q Are you sure you want to cancel the installation? (y/n):” is displayed. Enter “y”, and then press [Enter] key.
KAQG61001-I is displayed. Remove the installation media, and then press [Enter] key.
Shutdown of the node OS is executed.
To restart the maintenance mode, execute the procedures from step (1).
When starting the maintenance mode again, perform from step (1).

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(5) If [KAQG61004-I] is displayed after pressing [Enter] key, refer to (5-1). If [KAQG61001-I] is displayed, refer to (5-2).

(5-1) When [KAQG61004-I] is displayed
When the maintenance mode start is complete, Maintenance Mode Start Window is displayed as in Figure 6.3.2-7. Remove the installation media from the DVD drive.

```
KAQG61004-I Start the OS in maintenance mode.
```

Figure 6.3.2-7 Maintenance Mode Start window

NOTE:
- After the maintenance mode is started, operations from the KVM console are not possible. Log in to the node via “ssh” from the maintenance PC, and execute commands.
- After the maintenance mode start process is completed, return to the caller of the maintenance mode and execute the rest of the operations. When the operations are completed, proceed to step (6) and terminate the maintenance mode.

(5-2) When [KAQG61001-I] is displayed

(a) The removing media window as shown in Figure 6.3.2-8 is displayed. Remove the installation media from the DVD drive, and press [Enter] key.

```
KAQG61001-I Eject the installation media, and then press the [Enter] key.
```

Figure 6.3.2-8 Removing Media window

(b) The maintenance mode startup window is displayed as shown in Figure 6.3.2-9.

```
KAQG61004-I Start the OS in maintenance mode.
KAQG61033-I The passwords below do not need to be entered. (Only enter passwords if instructed by
maintenance personnel.)
service@localhost’s password:
```

Figure 6.3.2-9 Maintenance Mode Startup window

NOTE:
- Although the password input window is displayed after the completion of startup the maintenance mode, the operation by entering password is required when there is an instruction from the technical support center. When there is no instruction, the later operation is executed by connecting the maintenance PC.
- After completing the maintenance mode startup, return to the caller of the maintenance mode and execute the rest of the operations. After completing the operations, proceed to the step (6) and terminate the maintenance mode.

(6) When the operations performed in the maintenance mode such as log collection are completed, refer to Set Up “6.3.3 Maintenance mode termination” (SETUP 06-0090), and terminate the maintenance mode.

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6.3.3 Maintenance mode termination

For how to terminate the maintenance mode, log in to the node by SSH and execute the shutdown command.

For how to log in to the node by SSH, refer to "Maintenance Tool '1.3 Procedures for Operating Commands' (MNTT 01-0200)".

To execute the shutdown command, enter the command according to shutdown command as in Figure 6.3.3-1.

```
$ sudo /sbin/shutdown -h now
```

Figure 6.3.3-1 Shutdown Command

NOTE: If the SSH-supporting communication software (e.g., Putty) is closed without executing the shutdown command, the maintenance mode continues to be active. To terminate the maintenance mode, log in to the node again via "SSH" from the maintenance PC, and execute the shutdown command.

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6.3.4 Port Notation when using maintenance mode

For the notes on port when using the maintenance mode, refer to “A.2.4 Notes on Port when Maintenance Mode is Used”.

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Chapter 7 BIOS and Various Types of Firmware Update Procedure

7.1 BIOS Update Procedure

For the BIOS updating procedures, refer to "B.2.1 BIOS Version Checking Procedure".

7.2 HBA Firmware Update Procedure

NOTE:
- Execute this operation in the cluster configuration and in the single node configuration at the time of connecting the disk array subsystem.
- Before executing the update procedure of the HBA firmware, acquire CDROM in which the HBA firmware file to be updated is stored in advance.
- The same procedure can be used for the downgrade.

(1) Execute the HBA firmware update.
Refer to "Maintenance Tool '2.25 Updating the HBA Firmware (fchbafwupdate)' (MNTT 02-1630)", and execute the HBA firmware update.

(2) Check the HBA firmware version after the update.
Refer to "Maintenance Tool '2.24 Checking the HBA Firmware Version (fchbafwlist)' (MNTT 02-1600)", and check the version of the HBA firmware.
Check that the HBA firmware version is the version that the update was executed in step (1) after the update.
If the version of the HBA firmware differs, execute step (1) again.
If the HBA firmware version still differs, contact the Technical Support Center.

7.3 RAID Controller Firmware Update Procedure

NOTE:
- Before executing the firmware update procedure of the RAID controller, acquire CDROM in which the firmware file of the RAID controller to be updated is stored in advance.
- The same procedure can be used for the downgrade.

(1) Execute the RAID controller firmware update.
Refer to "Maintenance Tool '2.47 Updating the Built-in RAID Controller Firmware (internalraidfwupdate)' (MNTT 02-2640)", and execute the RAID controller firmware update.

(2) Check the RAID controller firmware version after the update.
Refer to "Maintenance Tool '2.46 Confirming the Built-in RAID Controller Firmware Version (internalraidfwget)' (MNTT 02-2610)", and check the firmware version of the RAID controller.
Check that the RAID controller firmware version is the version that the update was executed in step (1) after the update.
If the RAID controller firmware version differs, execute step (1) again.
If the RAID controller firmware version still differs, contact the Technical Support Center.

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7.4 BMC Firmware Update Procedure

For the BMC firmware updating Procedures, refer to “B.2.2 BMC Firmware Version Checking Procedure”.

NOTE: If the remote console is used when executing the BMC firmware updating procedures, session between the maintenance PC and the node will be aborted. In that case, establish the session again using the same address.

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Chapter 8 BMC Setting

8.1 BMC Setting Procedure

(1) For the procedures of BMC interface setting, refer to "B.2.5 BMC Setting Procedure".

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Chapter 9 Appendix

9.1 UTC-based Time Setting

The maintenance personnel need to check the built-in clock in the motherboard of a node before the OS is installed initially or after the motherboard of node is replaced, and if the time is off, set it to be on time.

Start the BIOS Setup Utility of the node, and then set the time of the built-in clock in the motherboard. The time must be the Universal Coordinated Time (UTC), not the standard time at the customer site.

For the BIOS Setup Utility, refer to the manual of the subject model.

NOTE: When setting the time, take account of Daylight Saving Time.

Acquire the UTC (Universal Coordinated Time) with the procedure of (1), and set the time with the procedure of (2). If the UTC cannot be acquired, acquire the GMT (Greenwich mean time) instead of the UTC.

(1) Acquiring the UTC (Universal Coordinated Time)
The UTC is acquired on the maintenance PC.

(a) Open [Control Panel] on the maintenance PC and confirm the display method shown on the upper right side of the window.
If the display method is either “Large icons” or “Small icons”, click “Date and Time” icon on the upper side of the window.
If the display method is “Category”, click “Clock, Language, and Region” and click “Date and Time” on the displayed window.
Confirm that the displayed time zone is showing your local area.

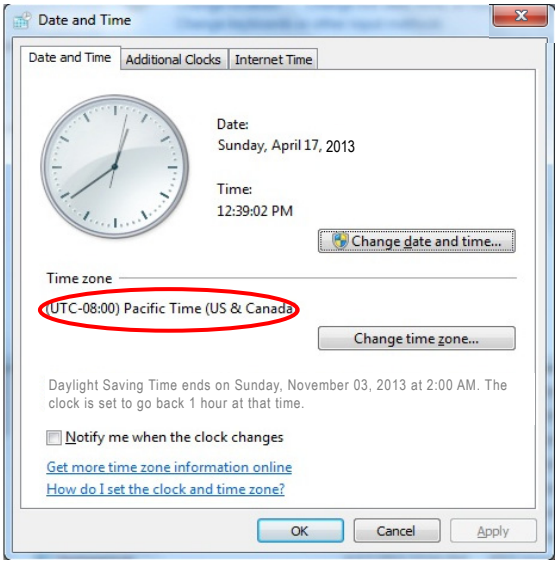

Figure 9.1-1 “Date and Time” window 1

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If the time zone is different, click “Change time zone...”.

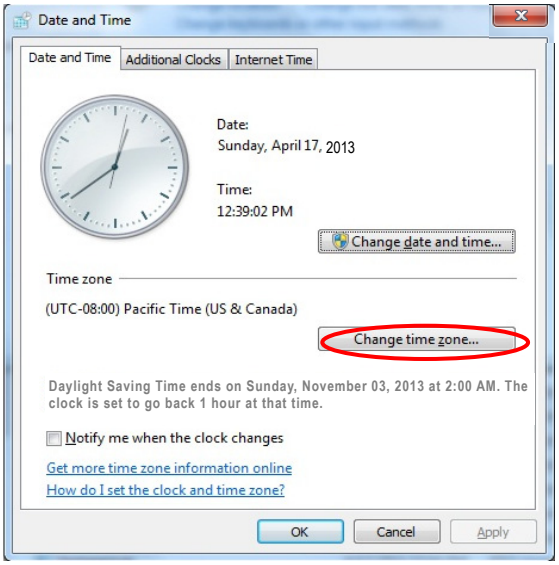

Figure 9.1-2 “Date and Time” window 2

When “Time zone Settings” window is appeared, select your local area from the drop-down list and press “OK”.

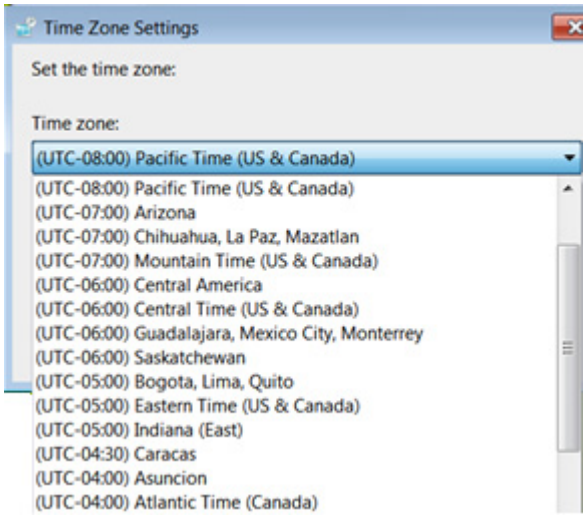

Figure 9.1-3 “Time zone Settings” window 1

When you press “OK”, “Time zone Settings” window is closed.

NOTE: When Daylight Saving Time is being applied, check [Automatically adjust clock for Daylight Saving Time] box in the “Time zone Settings” window and press “OK”.
Daylight Saving Time considered time will be set in the next step.

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(b) Confirm that the time and date displayed in the “Date and Time” window have been set to your local time.
Note that the time error is within 5 seconds. If the time is wrong, click “Change date and time...” button.

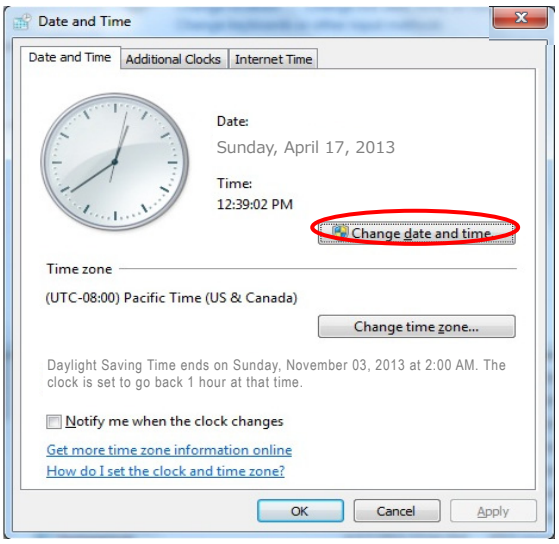

Figure 9.1-4 “Date and Time” window 3

NOTE: If you checked [Automatically adjust clock for Daylight Saving Time] box in the “Time zone Settings” window, set the time considering that Daylight Saving Time is being applied.

Press “OK” after setting the Date and Time.

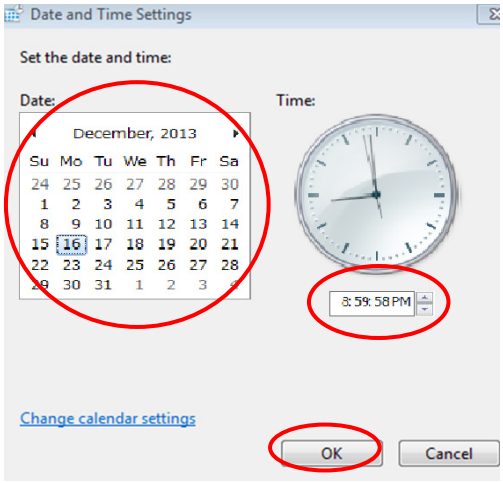

Figure 9.1-5 “Date and Time Settings” window 1

If you press “OK”, “Date and Time Settings” window is closed.

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(c) Click “Time zone settings” button in the “Date and Time” window again to open the “Time zone settings” window. Then select “(UTC) Coordinated Universal Time” in the time zone (T) and click “OK”.

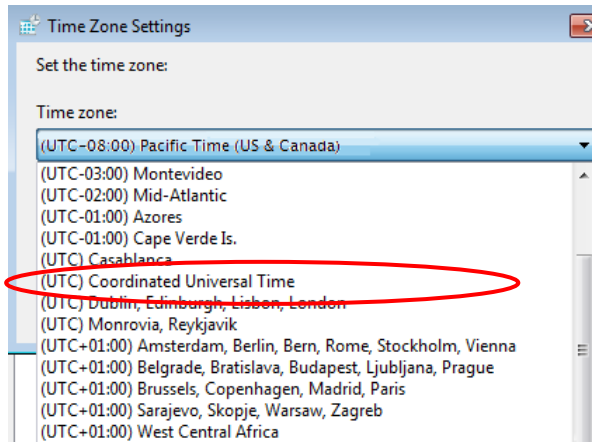

Figure 9.1-6 “Time zone settings” window2

(d) Make a note of the time and date of UTC (Coordinated Universal Time) in the “Date and Time” window.

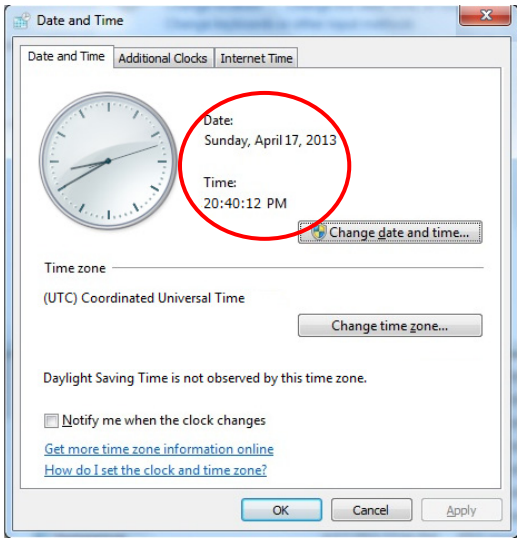

Figure 9.1-7 “Date and Time” window 4

(2) Set the time in BIOS
For the time setting in BIOS, refer to “B.2.4 Set the Time in BIOS”.

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9.2 Acquiring OS Time

(1) Acquiring date and time
Execute the timeget command without specifying an option on the node where you want to acquire time.

(2) Set date and time in maintenance PC
Open [Control Panel] on the maintenance PC and confirm the display method shown on the upper right side of the window.
If the display method is either “Large icons” or “Small icons”, click “Date and Time” icon on the upper side of the window.
If the display method is “Category”, click “Clock, Language, and Region” and click “Date and Time” on the displayed window.
When “Date and Time” is displayed, click “Change date and time...” and set the time and date acquired in the procedure (1). Note that the time error is within 5 seconds.
Press “OK” after setting the Date and Time.

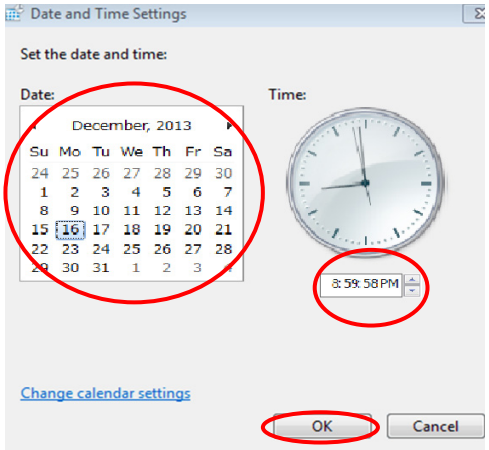

Figure 9.2-1 “Date and Time Settings” window 1

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